Better Crops

The Pocket Book of Agriculture

July 1924 10 Cents.

In this issue—"Suggestions for an Agricultural Program" by Jeff McDermid and the readers of BETTER CROPS.

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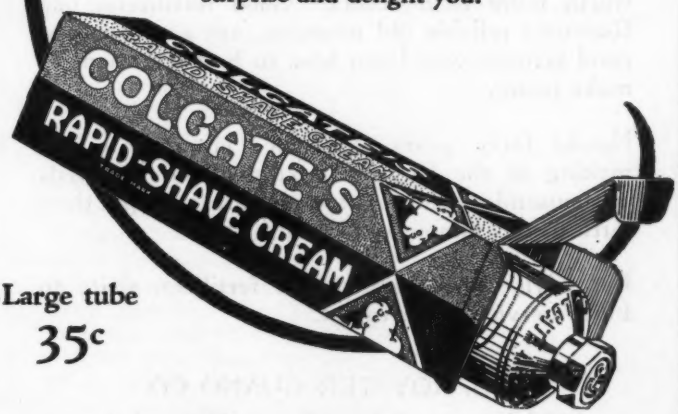

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Better Crops

The Pocket Book of Agriculture

VOLUME II NUMBER FIVE

Table of Contents, July, 1924

Time 5
Some new angles on an old subject, by Jeff McDermid
Putting Over a Poultry Club 7
A fine accomplishment, by C. M. Kelehan
Picking Dollars Out of the Air 8
What radio means to the farmer, by F. M. Russell
Suggestions for an Agricultural Program 10
By Jeff McDermid and the readers of Better Crops
Potash Pays 12
A prize essay, by Robert Stewart
The Cooperative Marketing Situation on the West Coast 14
A county agent's report, by D. B. Morris
Ten Years of Extension Work 17
A significant statement, by C. W. Warburton
A Child Shall Lead Them 20
What carelessness may do, by C. T. Gregory
Have the Farmers Met to Death? 22
A snappy discussion, by D. D. Long
How One Community Increased Cotton Production 24
A splendid success story, by P. W. Chapman
Training Leaders 26
A successful solution of a big problem, by R. H. Gist
Don't Trifle with Rhus Dermatitis 28
How to deal with this pest, by Albert Hansen
The Use of Fertilizers in Wisconsin 30
Useful recommendations, by H. W. Ullsperger
Fertilizer Experiments in Florida and Georgia 34
More maps prepared, by D. D. Long

Who's Who of Better Crops

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Poppies

Better Crops

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VOL. II NEW YORK, JULY, 1924 No. 5

(Being a little treatise on the most important subject in the whole world—an article on

TIME

By Jeff McDermid

THIS, brother, is a dissertation on Time—but it is not "on time"—it is four days late; thus if this issue is delayed in reaching you it is because I put off until the last moment writing this page.

I mention the fact at this point to prove that I do not "take myself too damn serious," as the late Elbert Hubbard used to say.

Time is money; but unlike money it cannot be accumulated. That which we do not use today is not ours to spend tomorrow. If, like money, we could pass on to those who need it badly the time we do not use, there might be an excuse for not utilizing every waking moment. But a moment unused is gone forever. That sounds trite. Perhaps it is; but I would like to have you spend the next hour with me, thinking about this thing we call "time."

Perhaps in thinking and writing about it we can learn something we have always known but did not know we knew.

TIME has always been here; it always will be here. My imagination cannot conceive of a situation where there shall be no time, even

with the passing of this world. Time is here now. The moment just passed is *nowhere;* another moment is *now here!* And the moment to come may never come—that is why I dare not waste this moment I now call my own. When my allowance will be cut off I do not know; but the thought of it makes me think thoughts.

Everybody wastes time, scatters the precious moments and permits the golden minutes to dribble sillily through his fingers—I do, and so do you. What *is* wasting time? Yesterday I spent on a trout stream in the Catskill Mountains. Were the moments wasted? In a sense, yes; in a larger sense, no; for by spending those moments yesterday in a wastrel mood I am able today to do for myself what time and eternity could never do for me—make two moments grow where but one grew before. And this is the way I do it: I do two minutes' work in one! Selah!

Wasted moments are those in which no advancement is made—in which time passes, the clock ticks, the sand drops, the world whirls and we stand idle, the moments pelting down upon our thoughtless heads only to spatter like raindrops on the ground, sinking forever out of sight — forgotten, and — pity! — unmourned.

MEN are not created equal in any way. I think you will agree with me on this. The proposition seems sound and in accord with the experience I have had with men. But men are nearest equal in the allotment of hours; at least we each have twenty four hours a day. And if Henry Ford uses his twenty-four hours to greater advantage than I do that is my fault, not his!

Wasted moments are a crime.

There is no doubt of this, for every writer, thinker and philosopher of consequence has left a heritage of homilies on the subject. Open your Book of Familiar Quotations and see what writer, if any, forgot to leave his impress on this thought of time wasting.

The subject is threadbare, yet, because the thing we call time is the most important thing in the world, more precious than gold, radium, sunlight, insulin, love, Fords, clean baths or cigars, I could not resist adding my thoughts. Time is the essence of my contract with eternity—time enfolds everything—time *is* everything.

NOW, lookee here, let's get down to business on this thing called time. If you were notified that an unknown person had died and left you $613,200.00 you would (after you had recovered!) begin to lay plans for properly investing your heritage. Many hours would be spent in delightful anticipation. You might plan to indulge yourself in world travel, to buy the books you had always wanted. You would give to charity. The little lame boy with the pleading face, down beyond the corner, there, now you can give *him* a little. Little enough, but see his face light up! You would budget your fund, so much for this, so much for that. A certain tidy sum should be safely laid away for your old age. Around this sum safeguards are thrown—protections against your own improvidence. You fix it so you cannot draw this principal even if you crawl to the bank on your belly and beg. There: that's done. Hours, hours, hours, spent in planning what to do with this stupendous number of dollars.

And yet, properly handled, an hour is a dollar. And Someone died and left you a golden heritage of 613,200 hours!

What about your 613,200 hours on this earth? They are yours—a trust fund from which you may draw a minute at a time—never more. You can have two dollars at a time, but never two moments—

(*turn to page 64*)

Putting Over *a* POULTRY CLUB

By C. M. *Kelehan*
County Agent, Otter Tail County, Minnesota

¶You'll like this because it's red meat. Brother Kelehan writes modestly of his achievements but they speak volumes for his fine spirit and untiring energy.

COUNTY AGENTS are expected to disseminate all kinds of agricultural information to the several communities wherein they are employed. They may give information on the various phases of production of crops, livestock and even marketing. To get the information across so that the majority of the people should accept and use it is the stumbling block. Many people are not willing to accept and put in practice information that is given by anyone. While information can be given out freely through the press and even by word of mouth at large meetings, a very small per cent of the people ever use it, the majority make fun and ridicule it. To overcome this attitude and increase the efficiency of the County Agent's work it is necessary to approach the people in a different way.

In one particular community in this County a large per cent of the farmers were of this attitude. It was next to impossible to get them out to meetings. Preceding County Agents organized Farmers' Clubs but they failed. Cooperative Live Stock Shipping Associations were not supported and even the Creamery had a hard time to hold the patrons in line. We made the thorough acquaintance of the pastor for this particular community who happened to be quite a poultry man on a small scale. At an informal gathering last winter we suggested that we organize a poultry club for adults and that we hold regular meetings once a month for a period of one year to see what could be accomplished. At our first organization meeting there was a fairly good attendance, but not so very many who seemed interested enough to agree to attend a school once a month for the year. After considerable urging by the pastor and a few of the very interested ones, we enrolled a class of nineteen adult members. We started out by getting them to keep a complete egg record for their poultry flock. We furnished the cards which they filled out regularly and returned to the office.

TWELVE lesson plans were worked, not all in advance, so there would be something definite to take up at each lesson. We started our first lesson after organizing by studying breeds and varieties. Enough Farmers' Bulletins, Nos. 898, 806, 1251, 1221 and 1052 were

(*Turn to page 62*)

Picking DOLLARS Out of the Air

By F. M. Russell

In Charge Press Service
U. S. Department of Agriculture

Have you ever realized the value of radio to the farmer? Tune in on this article and get some new ideas.

NOT long since a farmer living 20 miles out of Cleveland, Ohio, reached up in the air and grabbed an extra profit of 25 cents a bushel on a shipment of some 1,500 bushels of Bartlett pears.

To make the statement a few years ago that the time would come when a farmer could literally pick a cold $375 in cash out of the free ozone above him would have been styled the highest type of pure hokum. But today this is just an incident in the life of many farmers.

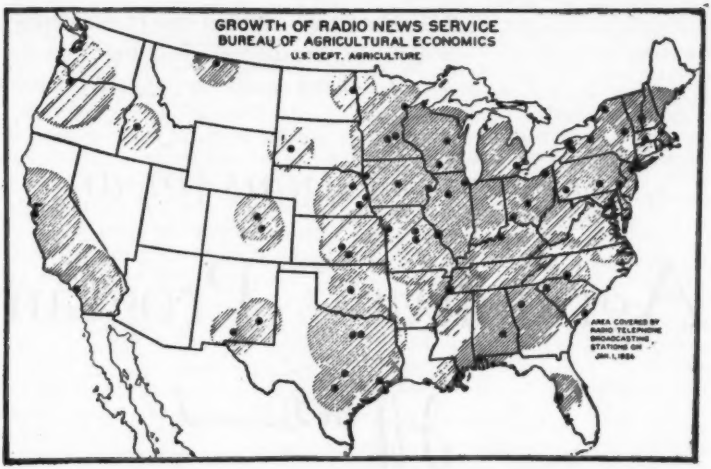
It happened that this particular Ohio farmer, like many of his neighbors, reached that season of the year when his pear crop was ready for the eager city consumer. The local buyer offered him 50 cents a bushel. The producer well knew that this price was a long way to the rear of the price the ultimate consumer would have to pay before he got pears for his table, but he was too well acquainted with the heavy and intricate marketing and distributing machine which has grown up in this country to doubt that 50 cents was about all he could expect to get.

Before closing the deal he called at his country bank. There he learned that the market reports for fruit at Cleveland were expected momentarily over the small radio receiving set installed by the bank for the accommodation of its patrons.

Shortly the reports started coming in and they brought the information that buyers in the city were offering from 95 cents to $1.25 a bushel for the variety of fruit he had on the farm. He called one of the reliable dealers on the phone, sold his pears for 75 cents a bushel on the farm, and chalked up radio for an extra profit of 25 cents.

HERE'S another case. A southern Illinois farmer had a carload of cattle ready for the market. He had the choice of selling to a local buyer or shipping to a market at East St. Louis which had made a reputation of going up and down with each day's receipt. Naturally, violent fluctuations in the market did not appeal to him. The local buyer offered him $10.50 a hundred for the steers, which included freight and the other necessary expenses. The unsteadiness of the market had about convinced him that the best bet was to take the local offer.

Something persuaded this Illinois farmer to get in touch with the local


GROWTH OF RADIO NEWS SERVICE
BUREAU OF AGRICULTURAL ECONOMICS
U.S. DEPT. AGRICULTURE
AREA COVERED BY RADIO TELEPHONE BROADCASTING STATIONS ON JAN. 1, 1924

"It covers the world." This map shows points from which market reports are issued by the U. S. D. A. These and other stations also send out weather forecasts and agricultural news.

radio operator. He now says it was the proverbial radio "bug" which had gotten under his hat for the first time. At any rate he learned from the radio reports that good cattle on the central market were showing a healthy advance in price and receipts were light. Whereupon, he shipped his steers the short distance to St. Louis, saw them sold to the packers at near the top price for the day and over $1 a hundred more than he was offered by the local dealer. He, too, was converted and credited the radio with a generous margin of cash.

These are not unusual incidents and this is not propaganda for radio. Scores of other cases could be cited to show conclusively that radio is listed as one of the farmer's most valuable business assets, and has been a vital means of connecting him up definitely with the affairs of the world.

For years the farmer has been told that his big problems were turning from those of how to produce to the more intricate economic questions of how and when to market. "If you are to farm efficiently you must watch market receipts, prices, movement of products, and demand," he was told on every hand. Yes, but how? Quite true, the printed word in a variety of ways early carried such economic reports but there was certain information upon which the mails could not fully be depended upon to fill the bill. The vital thing was Speed! Speed! Speed!

IN this day of concentration, specialization and competition speed is most essential. It is indispensable. The law of supply and demand and all that goes with it constitutes a delicate instrument which fluctuates from day to day; from hour to hour, in fact. Today's market reports received a day or a week later did not wholly suffice.

Then along came the radio. At the very moment that market receipts and prices are determined they are thrown upon the ether and travel to all parts of the country and into the ears of every farmer who wears earphones at a rate of speed difficult to measure. It is the first device by which he has been

(*turn to page 52*)

¶Here is a cross section view of the opinions of agriculturists all over the country on some of the leading questions of the moment.

Some Suggestions for an

Agricultural Program

By Jeff McDermid

and the Readers of BETTER CROPS

AS I sit here at my desk and look over the great heap of replies that I received in answer to my request for suggestions for a constructive agricultural program, I feel like the man who prayed for an heir and got triplets.

At the time I made the request, I confess I had some misgivings. It was frankly an experiment. Did the readers of BETTER CROPS approve of the idea of a magazine edited, so to speak, cooperatively? Would they do their part towards contributing to its platform and policies?

It was, I felt, a departure from the usual paths of journalism, maybe a step too far forward. But the answer to both my questions has been "Yes!" and a careful study of the hundreds of replies that came in has been an education in itself.

At first I thought to print them all, but that speedily became out of the question.

Eventually the only course left was to attempt a digest or summary of the answers. Naturally there was a great diversity of suggestions and opinions offered. In a few instances it was apparent that the writer was looking at the subject from a rather personal angle as when a plant specialist wrote that the eradication of plant diseases would solve all our problems.

THERE were several more or less humorous suggestions. This is one that made me grin:

"Get married—produce 40 kids per acre which will solve the labor problem on the farm. Home made labor is much more reliable than transient. Everybody works but father. Get the idea?"

But the outstanding feature of these contributions was their sanity and good sense. Nobody could hope to write a complete agricultural program covering all phases of the subject on a postcard but, like most of those who replied, one

could indicate some of the leading issues.

As anyone acquainted with the present agricultural situation might expect, the chief interest lay in economic problems, in more efficient production and marketing with the idea of securing for the farmer a higher return for his investment. These suggestions from County Agent C. C. Madison of Indiana are typical of many others received.

"Put agriculture on a business basis: 1, by producing economically; 2, by producing what the market demands; 3, by producing a quality product; 4, by placing agricultural produce on the market in a desirable manner as to containers, etc. Co-operative marketing may help in some cases in the above program."

The sentiment expressed in this reply was expressed in a variety of ways of which the following are a good indication:

"I wish I might be the one to suggest a constructive program, for everlasting fame awaits him who does. When farming finally comes into its own, and it will, it will be a business enterprise in which individual farmers will not market their own products. Farming can never become organized otherwise for the human element will prevent it. I believe that this method is developing and while progress is slow, it is making headway. My suggestion is, keep continually at work on an effort to develop business methods in selling farm products and success must follow.—*H. F. Wilson, College of Agric., U. of Wis.*"

"Maintain soil fertility. Use good seeds. Practice good farm management. Proper crop rotation. The economical production of crops and livestock is the one fundamental principle to keep in mind at all times. We must learn to produce more economically by the application of business principles in farming.—*J. E. Johnson, Farm Bureau Work, Champaign, Ill.*"

"1. Eliminate the inefficient, marginal producer. 2. More cost account records, more business methods on farms owned and mortgaged. 3. More general use of efficient, and labor saving machinery. 4. More mutual action and confidence on the part of leaders of farm organizations. 5. More efficient and orderly marketing by grading and standardizing farm products.—*R. G. Waltz, County Agent, Norristown, Pa.*"

"Every enterprise constantly improving in quality. Every community as nearly self-supporting as practicable. Surplus production should be in harmony with consumers needs.—*T. A. Coleman, Asst. Dis. Ag. Ext., Lafayette, Ind.*"

"1. How to grow and market quality products. 2. Coordinate the relation between cooperative marketing and quality products in the mind of every farmer. 3. Make the necessity of keeping cost production records paramount. 4. Develop the sociological side of the farmer, weaving in the necessity of understanding collectively the political problems of today.—*S. B. Love, County Agent, Saginaw, Mich.*"

"1. Diversification. 2. Better method of production—heavier fertilization, better cultivation, insect control, etc. 3. Better methods of marketing—through cooperative associations where possible. 4. Organizations to study needs of communities, better social conditions, etc. These organizations buy supplies and sell products when practicable.— *County Agent C. L. Doughly, Chattanooga, Tenn.*"

"The program has already been set up by many workers. May I sum it up? Stop cropping marginal lands; diversify, but not too widely; raise a standard product; keep the cost of raising it down; market it cooperatively; long-term financing. Don't try to set aside economic law with farmer-relief laws. In short, use the head more and the hands less.—*C. R. Anderson, Asso. Prof. Forestry Ext., State College, Pa.*"

"Fertilization — intensification — diversification—cooperation.—*N. F. Jacks, Farmer, Brookhaven, Miss.*"

(*turn to page 57*)

¶Last month we printed one of the prize winning articles of the contest conducted by the Potash Importing Corporation of America for essays on the subject "Potash Pays." This month we are happy to present the other prize winner by Robert Stewart of the College of Agriculture, University of Nevada.

POTASH PAYS!

By Robert Stewart

POTASSIUM is one of the ten elements of plant food which is necessary for the growth and well-being of the plant. It is necessary for the process of assimilation in the plant. Whenever potash is deficient in the soil the manufacture of carbohydrates in the plant is reduced as demonstrated by the fact that starch grains are not found in algae which are grown in a solution free from potash. The grains of cereals also are small and undeveloped when the crop is produced on soils deficient in potash. On certain types of soils such as peats and gray silt, and for certain crops such as mangolds and legumes, potash produces markedly increased yields.

Potash is utilized in comparatively large quantities by many crops as indicated below.

Kind	Amount of Crop	Pounds of potash consumed
Corn	100 bus.	85
Wheat	50 bus.	70
Clover hay	4 tons	144
Sugar beets	20 tons	188

These results certainly demonstrate the importance of potash in the production of maximum crops.

There are numerous results available from the experimental fields of Europe and America which indicate the importance of potash in the production of crops. Some important results, showing the influence of potash in increasing the yield of certain crops, have been obtained from the Rothamsted Experiment Station at Harpenden and from the Woburn Experiment Farm at Aspley Guise, Beds, England.

Perhaps the most pronounced effect is that obtained in the production of mangolds as indicated below:

Effect of potash on yield of mangolds at Rothamsted Experiment Station.

Plot No.	Treatment	Yield as tons	
		Crop	Sugar
5A	Nitrogen, phosphorus	12.00	0.797
4A	Nitrogen, phosphorus, potash	28.95	2.223
	Increase yield due to potash	16.95	1.426

The addition of 200 pounds of potassium sulfate increased the yield of mangolds by 16.95 tons or 140%. The yield of sugar was increased by 1.426 tons or nearly 200%.

Wheat has been grown at Rothamsted for 80 years with various kinds of treatment. The effect of potash on the production of wheat is indicated below:

Wheat at Rothamsted Experiment Station.

Plot No.	Treatment	55 years ave.	1st 30 years	2nd 25 years
11	Amm. salts, acid phosphate	23.5	26.0	20.6
13	Amm. salts, acid phosphate, potassium sulfate	31.3	31.5	31.1
	Increase due to the potash	7.8	4.5	10.5

These results indicate clearly the necessity for some provision being made for the maintenance of potash in the soil for the production of such a common farm crop as wheat. It is very significant that where only nitrogen and phosphoric acid were added on plot 11, the second 25 year record is noticeably lower than is the first 30 year yield. However, when potash has also been added the yield has been maintained throughout the entire period at approximately 31 bushels per acre. These results were obtained by the addition of 200 pounds of potassium sulfate per year.

The 200 pounds of potassium sulfate contain five units of potash, having a value of $3.40. The Liverpool price of wheat in December 1923 was $1.20 per bushel. That is, the English farmer could expend $3.40 for the purchase of 200 pounds of potassium sulfate and increase his yield of wheat by 10.5 bushels which has a value of $12.60. Potash pays for wheat production in England under existing conditions of prices.

(*turn to page 49*)

Center pile from unfertilized row; two outside rows fertilized with high percentage of potash.

¶The author of this article was chosen by the extension service of the North Dakota Agricultural College to make a survey of cooperative marketing on the West Coast. This article embodies the results of his observations and is mighty interesting reading.

The Cooperative Marketing Situation *on the* West Coast

By D. B. Morris

County Agent, Grand Forks, North Dakota

EVERY movement that is a departure from the established order of affairs is apt to be branded as radical, theoretical and impractical, at least by many, and well we may analyze the cooperative movement before endorsing it, and then let it speak for itself. I believe that we are agreed that there is but one fair way to judge it and that is by what it has done and what it now is doing as well as what it proposes to do.

In order to learn the real facts concerning cooperative marketing and to verify the statements of those either antagonistic toward or in sympathy with the movement, an investigational trip was made through the states of Washington, Oregon and California where this form of marketing has been practiced for many years.

I made this investigation with an "open mind" and not prejudiced either for or against cooperative marketing. This investigation covered a period of less than three weeks, and the information contained herein was secured largely from county agents and extension officials, farmers, general managers and directors of cooperative associations. The subject was approached from as many different angles as possible. To make a detailed investigation of cooperative marketing in the states mentioned above would require several months, but the writer was not interested in the details of each association but rather in a general perspective of the cooperative marketing situation, as to the success attained by various cooperatives, the reason for failures with many, the farmers' attitude toward cooperative marketing associations and the part that county agents have played in the formation of cooperatives.

The first question one would ask is: Is the cooperative movement generally successful? From my observations I would conclude that *it is*, despite the fact that there have been a number of failures due chiefly to poor management, and despite the fact that even the most successful organizations have experienced reversals and have had

to contend with serious problems and handicaps, calling for the exercise of the most careful judgment, practical business procedure and above all, grit of almost unparalleled character.

PERHAPS no factor has contributed as greatly to the success of cooperatives in the western states as better merchandising methods. Any number of examples could be cited to verify this point. Take, for instance, methods employed by the Washington Cooperative Egg and Poultry Association, which insists on catering to the elite trade of the east with a carefully graded egg while the middle states for the larger part still send to market barnyard mixed. The eggs from this association have commanded a reputation for themselves; New York wants them and is willing to pay an average premium of 14½ cents per dozen to obtain them. Washington cooperatives also send to market a carefully graded apple which competed successfully with the orchard run barreled apples of New York state. In the California Walnut Growers Association, also, standardization and grading have largely been responsible for the success of the organization.

Orderly distribution has been a contributing factor to the success of most of the cccperatives. The law of supply and demand must always have its bullish and bearish effect which causes fluctuation in market values; however, when the over supply is taken off the market at the period of flush production and placed under proper storage and offered to the trade at the periods of low production, much of the speculation of manipulators is taken out of the produce and the gambler is not so able to depress the market when the supply is large and pyramid the prices in times of scarcity. The cooperative is enjoined with the responsibility of keeping the channels of trade open by avoiding gluts through a wide distribution of its commodity and offering its surplus in the time of scarcity to prevent the market skyrocketing and cutting off, or nearly so, the consumptive demand.

Frequently a declining market has been hastened to a chaotic condition by the increased dumping of farmers in an effort to sell before the market reaches bottom. Farm marketing has been strewn with these experiences and about the only one who has ever profited by them is the speculator. Cooperation prevents this in a very large part, because it is the function of that agency to market the produce in an orderly fashion and as the market can handle it.

THE essence of the Sun-Maid Raisin Growers' sales policy is that the entire trade in the United States and Canada, should have on hand every day in the year sufficient stocks for continuous movement into consumption, not merely to take care of prevailing demand, but to enable them to supply enlarging demand as well. While more or less future selling is done, based on the opening prices determined by the Company, the fundamental effort, as far as it may be practicably carried out, is to sell only to the trade in such quantities as according to the records and experiences of the Company are ample to take care of the buyer's trade within a reasonable period after delivery, and which will yield to the trade a fair profit, and not result in any loss whatever either to the jobber or the retailer. Furthermore, the Company aims to sell the trade in such quantities and at such frequent intervals as will insure the product being at all times in strictly first-class condition—rather than hazard its deterioration on the trade's hand, jobber or retailer, and result in financial loss to either or reach

the final consumer in an unwholesome condition.

SUCCESSFUL cooperatives are built around the efficiency and business integrity of their management and have been careful to secure the best market experts obtainable. No cooperative association can succeed unless it has the services of a manager, who is competent to handle the unique duties that are incident to that position and to surround himself with able associates.

I was told while in Los Angeles that wise and efficient conduct of affairs of the California Walnut Growers Association resulted in returning to members a price at least a cent per pound higher than would have been returned through only ordinary management and organization. The loss of a cent a pound on the 1922 season crop (40,000,000 pounds) would have meant an aggregate loss to members of $400,000, yet the total salaries of the association for the year 1922 amounted to less than one quarter of this sum.

Another factor that has contributed very materially to the success of some of the cooperatives at least, has been national advertising; mention might be made of the Citrus Exchange, Raisin Growers and Walnut Growers in this connection. The production of oranges and grapefruit has trebled the last twenty years, while the population of the United States and Canada has increased only about one-third. Through improved handling methods, broader distribution and intensive educational work with the consumers, the demand for citrus fruits has been kept in pace with the increased production; they are available every day in the year and have become staples with the trade and part of the daily diet of the public.

A few words might also be mentioned concerning the intensive effort to nationalize the use of Sun-Maid Raisins. The fact that this product is to be found today in practically every market, small or large, in the United States and Canada is ample evidence that the sales efforts have been eminently successful. In 1921 the Sun-Maid Growers Association spent $1,500,000 in advertising, and no one will dispute the intelligent and forceful nature of the advertising carried in the great magazines of the country and through innumerable other sources. The Sun-Maid Raisin Growers Association sold four hundred million 5-cent packages of these raisins, the net weight of the contents being upwards of 18,000 tons. For that and similar reasons the Raisin Growers and scores of other cooperatives, likewise, believe that "it pays to advertise."

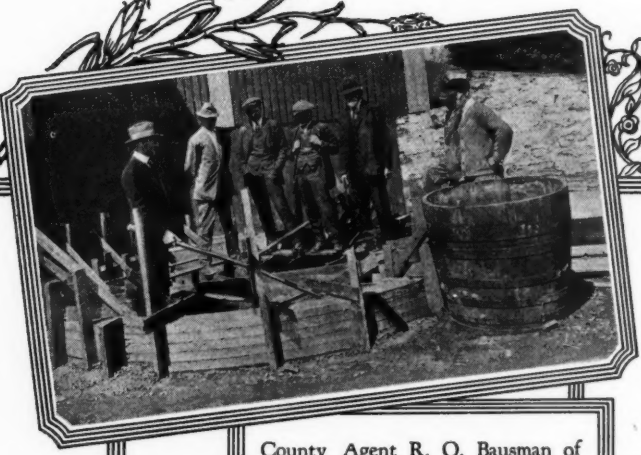
In the case of the California Walnut Growers Association, its sales and other expenses for marketing the 1922 crop were 5½ per cent of the f. o. b. value of the product, 2¼ per cent for advertising. Approximately ½ cent per pound on the estimated tonnage to be shipped for the season is set aside for the advertising appropriation.

AS I have stated before in this article, all successful cooperatives have had their ups and downs and in their earlier stages some have practically disbanded, and in a few cases they have actually done so and later reorganized on a stronger basis. The cooperatives in the west have had the same problems to contend with as any community in North Dakota or elsewhere. They learned through experiences that they had to perform some vital service in order to maintain their strength and to live in the face of competition to which they were instantly subjected. In the west the farmer is as strong an individualist as there is in this country. Generally speaking, he is not a

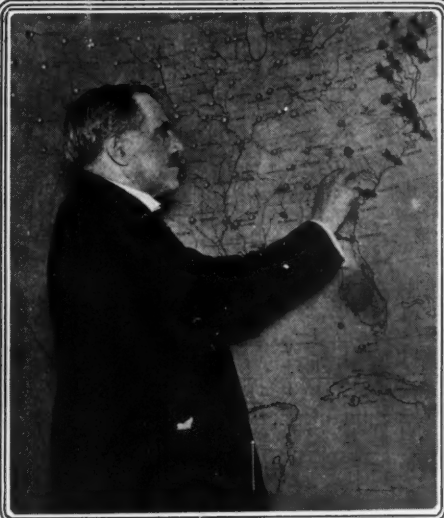
(*turn to page 60*)

Better Crops' ART GALLERY of the month

Herbert W. Mumford, dean of the College of Agriculture, University of Illinois, is a prominent livestock authority in this country and chief executive of one of the foremost agricultural colleges in the United States.



County Agent R. O. Bausman of New Castle County, Delaware, explaining methods being used by the farmer building the demonstration silo



Mark Twain was wrong—they are doing something about the weather and the authority is no other than C. F. Marain, Chief of the Weather Bureau.

Business farmers of tomorrow—members of the agricultural club in Madison County, Alabama, standing in front of their headquarters in company with their teachers.

Dr. W. A. Taylor, Chief of Bureau of Plant Industry, U. S. D. A., finds pleasure in inspecting green house experiments carried on under his supervision.

This Watonwan County, Minnesota, Club girl is one of the 46,000 canning club members who last year preserved some 2,900,000 quarts of fruits and vegetables as a part of their home making activities.

Ten Years of Extension Work

By C. W. Warburton

Director of Extension Work,
U. S. Department of Agriculture

AT the conclusion of the tenth year of cooperation between the Federal Government and the States in the conduct of extension work it seems fitting to review briefly what has been accomplished and to think for a moment of the future.

Although demonstration work had been under way for some 10 years in the South under the leadership of Dr. Seaman A. Knapp, and although various phases of extension work had developed in the different sections of the country, it was not until 1914 that the movement took on a united cooperative national character. The movement was given impetus by the report of President Roosevelt's Country Life Commission in 1909 and soon thereafter bills providing for Federal aid to extension work were introduced by Senator Dolliver of Iowa, and Representative McLaughlin of Michigan. Other bills along similar lines were introduced from time to time but all of these failed of passage until 1914, when under the leadership of Hon. Hoke Smith of Georgia, Chairman of the Senate Committee on Agriculture and Forestry, and Hon. A. F. Lever of South Carolina, Chairman of the House Committee on Agriculture, the Smith-Lever Act was finally passed.

The act is unique is Federal legislation. It was the first of a series of Federal acts which provides definitely for cooperation between the Federal and State governments in carrying on a common enterprise and permitting participation by counties, local governments, associations, and individuals.

At the time of the passage of the Smith-Lever Act there were more than 500 men agents and 200 women agents engaged in demonstration work in the South. More than 200 county agricultural agents also were at work in several of the Northern States. In the 10 years that have passed, the number of men agents in the United States has increased to 2,239. There are now 921 women agents, and 126 boys' and girls' club agents.

AS the work progressed the needs of the county extension workers for expert assistance in various lines, such as dairying, crop production, animal husbandry, nutrition, and home management, became apparent. There has now grown up a staff of about 800 extension specialists in the States, who aid the county workers in formulating their programs of work, give special assistance in the problems in their particular fields, and otherwise supplement the extension system. The county workers, specialists and the administrative and supervisory forces make altogether nearly 4,500 people who are engaged in carrying the gospel of better and more profitable farming, and healthier and happier homes to

the people of the United States.

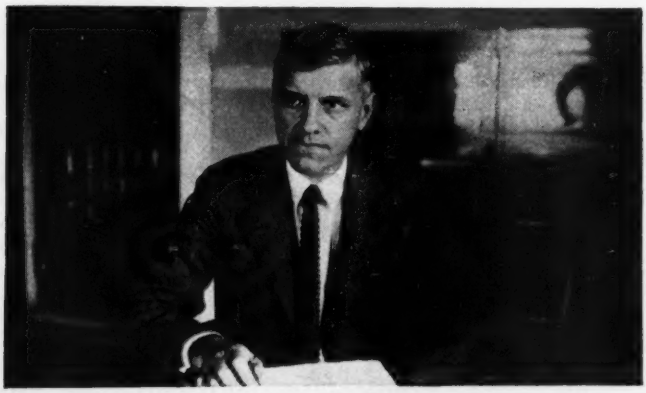
The original appropriation under the Smith-Lever Act was $480,000, with provisions for annual increases for eight years until the total reached the sum of $4,580,000. In addition to this amount, $1,300,000 is now appropriated by Congress on the same basis as the Smith-Lever funds, and a further appropriation of about $1,300,000 is made for farmers' cooperative demonstration work. This makes the total Federal appropriation $7,180,000, to which the States and local agencies have added approximately $11,000,000, so that now between $18,000,000 and $19,000,000 are annually devoted to extension activities.

ONE of the greatest tributes to the success of the movement is the fact that during the past three years of agricultural depression, while extension funds have not been materially increased, they have been maintained, and the losses in extension workers due to discontinuance of the work in certain counties have been more than made up by gains elsewhere.

With this large development the movement is still far from complete and there is much to which to look forward. There are still several hundred agricultural counties which have no men agents, and around 2,000 counties which have no women agents. These counties are not now receiving the full benefits of extension work, although something is being done in practically every county in the United States. Many of the more important agricultural counties have need for more than two agents. Much greater development of boys' and girls' clubs is needed, for in many respects this is the most effective extension field. The home demonstration work also needs much expansion.

The building up of the extension force to double or more than double its present proportions must necessarily be a long time job, but it is one toward which we should be looking and striving. One of the most hopeful signs of the times is the recent very large increases in local leaders of extension projects. The development of these local leaders is certain to result in not only better farming and more satisfactory home life, but a more intelligent and responsible citizenship.

I think we can look back on these ten years of cooperative extension work with much satisfaction and with the knowledge that real progress has been made, and I feel that we can look forward confidently to bigger and better things during the years to come.



Mr. Warburton at his desk.

The Sources of Power

By Dr. Frank Crane

THE earliest source of power was the human being. Man did the lifting, pulling and hauling. Then came the beasts, as the horse, the ass and the ox. But these forms of power are imperfect, expensive and wasteful. ¶Civilization advances as man learns to use the forces of Nature. The expansive force of steam now does the work of billions of human hands and horses' shoulders. The power of electricity, that once cavorted like a wild colt through the sky, has been broken to service, and has substituted for a billion more hands. ¶Little by little the common human laborer that has nothing to offer but his muscle is being thrown out of a job. Human labor, in the sense of physical force, is being gradually pushed off the earth. More and more the human mind is calling in the tireless genii of Nature's energies to do its required tasks. ¶We have hardly begun as yet to master the world we live in. We have barely scratched the surface of Nature's efficiency. There is the sun's heat, billions of power volts wasted every day, power that we have not been clever enough yet to utilize. There is the force in the rising and falling of the tides, which properly converted and stored might turn every power wheel upon our coast. There are vast uncharted fields in electricity we have not yet explored. It is not beyond the bounds of probability that electricity generated at Niagara Falls may be sent electrically by wireless and furnish all the mechanical power needed in New York City. There is the boundless energy of water power that we have hardly begun to utilize and that some day may oust the use of dirty, cumbersome and expensive coal as motive power. ¶Experiments have been made in Italy in the utilization of volcanic heat, converting it into motive power. And similar experiments are being made in Japan where there is a considerable constant volcanic activity. ¶An enormous amount of vegetation goes to waste every year, fields of weeds and sea grass. All this may possibly be converted into power. For whatever will rot will make alcohol, and it is only a question of time alcohol shall supercede petroleum products in the internal combustion engine. ¶Then there is the power to be loosed by the breaking up of the atom, a field presenting perhaps the greatest of all possibilities, a region into which the scientists have just begun to peep. It is not entirely extravagant to prophesy that the time shall come when man shall be removed from the necessity of almost all physical labor, at least for the purpose of supplying his food, shelter and transportation. Men can then use all of their energies toward cutting one another's throats, and the great, noble and character building business of war.

Copyright 1924, by Dr. Frank Crane

¶"An ounce of prevention is worth several tons of cure" in the case that Professor Gregory describes here.

A Child Shall Lead Them

—Perhaps Into Trouble

By C. T. Gregory
Purdue University Agricultural Extension Department

ONE day early in May I was in County Agent Benson's office at Vincennes, Indiana, when a lady and a ten year old boy came in and sat down. The boy, Frank Rogers, seemed to be laboring under some poorly repressed excitement, as he wriggled on his chair. Benson was out at that time so I played the host and after a few polite inquiries told them that the county agent would be back immediately. But the little fellow could not contain himself, he had to tell his news, and he came forward with a berry basket in which reposed five smooth ripe tomatoes. His eyes shone with pride as he said, "These are the first ripe tomatoes grown here at Vincennes this year. The grocery-man told me I had beaten all the gardeners around here by two or three weeks."

He was proud of his achievement, but no more so than his mother. Together they told how last fall he had transplanted several small tomato plants to candy buckets. At that time he did not have much faith in his ability to grow tomatoes, but he carried the plants into his father's greenhouse and gave them special care during the winter. His reward is ripe tomatoes weeks sooner than other greenhouse gardeners, his father included. Frank said that next year he is going to plant more tomatoes this way and get a better crop because he knows more about raising tomatoes now.

You know it is awful to be a killjoy, but, fine as Frank's ambitions are, he is starting a dangerous practice. Unless he knows exactly what sort of plants to avoid he might be the unwitting cause of serious damage in his father's greenhouse. It is not very pleasant to tell an enthusiastic youngster such a discouraging story, especially when he feels that he has the world by the tail.

But why is an apparently innocent practice of transplanting tomatoes from out of doors into the greenhouse, a dangerous practice? The answer to this question is, "Mosaic or Winter blight." During the past few years we have heard much of the mosaic diseases in various crops like potatoes, cucumbers and tomatoes. This mosaic is a peculiar kind of an infectious disease which occurs in the sap of plants and produces various types of stunting and distortion. In the tomato the leaves are peculiarly blotched with definite

yellow and green spots. The shape is often strangely distorted, sometimes producing fern-like leaves. The plants are always greatly dwarfed and the yield is also dwarfed.

In the field this disease is often a very serious menace, doubly so because it does not kill the plants, but does greatly reduce the crop. The grower may not be impressed with any sense of danger to his crop because the plants are alive and apparently growing in good shape. Sometimes, however, the county agent may receive a call of distress as R. M. Roop did while he was at Columbia City. One of the city merchants had a small home garden containing about two dozen tomato plants. They all looked good when he planted them, but suddenly every tomato plant in the garden seemed to stop growing and produced short bunchy stems. Since the county agents knows everything about all kinds of crops, Roop was asked to examine these plants and tell the merchant-gardener what to do. It turned out that somehow this man had brought in one mosaiced tomato and in pruning the vines he had spread the diseased sap to every other tomato plant in the garden. Unfortunately there was not a thing that could be done to help this gardener.

Under the fine growing conditions of a greenhouse this mosaic disease seems to become doubly virulent. The constant care and pruning given the plants serve as an excellent means of spreading the sap, provided one diseased plant is introduced in some way. Two years ago a crop was ruined in an Indianapolis greenhouse by mosaic. The trouble started from a single old plant that the gardener had allowed to grow in one house since the previous summer. The plant had made a good growth and bade fair to yield some very early tomatoes. Since it was growing at one side of the house and was not interfering with his lettuce crop, the gardener left it alone. Perhaps if he had continued to leave it severely alone and had not pruned it, everything would have been all right, but he did not. He trimmed it along with his other plants and as a result every plant in two houses developed severe cases of winter blight. I do not know exactly how much he lost, but it was enough so that he cleans out all tomato plants now. He has no sentimental feeling for harmless looking old plants.

No! This tomato is not tattooed. It is afflicted with mosaic. The light green streaks never ripen.

Last year in another greenhouse in the State the gardeners tried to raise an early winter crop. They started the plants in fall before the cold weather had killed everything out of doors. Again the winter blight came in and they did not harvest enough from a large house to pay for the picking. This time it seems as if insects, like plant lice, carried the diseased sap from diseased tomato plants or weeds that were still alive in the field. A peculiar thing about this disease is that two weeds, the ground cherry and horse nettle, also carry the infected sap. These weeds are perennials and once they become infected the new plants each year will be diseased. This is a very convenient way for the mosaic-sap to maintain itself from year to year.

Have *the* Farmers Met *to* Death?

By *David* D. *Long*

Soil Specialist
Soil Improvement Committee, Atlanta, Georgia

¶A good many people seem to think so but you should read this article before you answer.

THE county agent was notified by the extension service that there would be a farmers' meeting in his county and accordingly he announced the meeting, giving the time and place, in the local papers and also sending two hundred letters to the leading farmers of the county.

The day of the meeting, the speakers, and the time of the meeting arrived but no farmers had made their appearance. The county agent went to the porch of the court house and called the meeting announcing that the speakers were present and that the meeting was about to open. It was then that a farmer stopped from his work on his Ford long enough to ask, "What are they going to talk about and who is going to talk?"

This farmer voiced the sentiment of farmers generally. First of all, they wish to know what the meeting is about and who is going to speak. This information serves as a starting point to decide whether or not the meeting is of interest to them.

Agriculture being a broad subject, offers many opportunities to talk on subjects which do not directly nor indirectly concern a large number of farmers. The farmer has learned this from attending many meetings. Consequently the simple announcement of a farmers' meeting does not any longer attract attention or create any interest.

Many county agents work valiantly to hold interesting meetings for the farmers but without success. Discouragement follows and the county agent dreads the notice from headquarters of a meeting to be held in his county. He feels as if "the farmers have met to death."

"The farmers have met to death," is only evidence of improper methods of announcement, or of continued disappointment in the message delivered; or of subjects discussed with no local application; or of impractical suggestions; or any number of causes which do not serve the farmer in his effort to make money or to better his condition. That the farmers have not met to death can be realized through an understanding of the mind of the farmer and of a few simple principles of advertising.

IF "the farmers have met to death," something in their meetings has dealt the death blow.

An analysis will generally reveal that a hungry mind eager for vital information has not been properly fed or that food for thought has not been sufficiently balanced. When the infant feels

the sense of hunger, instinctively it reaches for the bottle which has satisfied that hunger. When the bottle is not placed within the tiny hands the child realizes and makes known its disappointment. The mind of the people acts much in the same manner and the farmer is no exception.

It is worth while to study the mind of the farmer and how to appeal to him for his own benefit.

The farmer's mind is a rushing torrent of thoughts pertaining to the business of managing his farm or, in other words, of making money. In the routine of his daily life the farmer faces problems which involve the details surrounding any big business and problems of a scientific nature which are rooted in every branch of natural science.

There is an eagerness on the farmer's part to learn new facts concerning his business. There are always problems in his mind about which he desires information. Therefore, the farmers' meeting must, first of all, be built around what he wishes to know and not an idea or theory or program one might wish to force upon him in an honest effort to serve him.

A large number of successful and largely attended meetings is positive proof that farmers will meet as often as they are convinced that they can better their conditions by coming out. This fact has been proven by arranging meetings at points where the farmers have been supposed to have met to death. In the majority of cases the meetings were the largest ever held by the farmers of those counties.

Announcing the farmer's meetings is of first importance. Despite the almost heroic efforts of the conscientious county agent to get the farmers out to meetings, the farmers do not come chiefly because the meetings are not properly announced.

Before calling the meeting the vital problem of the locality should be determined. If the problem is of sufficient seriousness to warrant a farmers' meeting then that problem, and that problem alone, should be discussed. In some cases it may be practical to discuss two closely allied subjects. Broad gauged discussions covering vitamines to statistics generally do not appeal with direct force to the farmer and have killed many a farmers' meeting.

Should there be no interest in the subject then there is no excuse for holding the meeting. One must distinguish, however, between apparent and latent interest. There are very few cases where there is a real problem that interest cannot be aroused.

The announcement of the meeting should embody the idea of the purpose of the meeting, the subject to be discussed and the benefit one could expect from attending.

In the case of a "Boll Weevil Meeting" an idea is at once injected into the mind of the farmer. He knows the losses, privations and damages which this insect causes. But yet the full idea is not conveyed for there are many angles to this question. "Boll Weevil Control" removes the last vestige of doubt in the farmer's mind as to what will be discussed. "Successful Boll Weevil Control" creates further interest in the question as to how success is to be attained.

The loss to the farmers through an incomplete announcement may amount to sizable figures. A farmers' meeting in a certain county was announced throughout the county but the attendance comprised a dozen court house idlers who, out of ennui of whittling and talking politics, went into the courthouse to hear the message. The message was timely and filled with vital information on a subject which directly applied to a local problem.

After the speakers had finished their talks one party in the audience said, "You fellers said what would interest some of our big farmers—Now just wait until I go get them

(*turn to page 56*)

How One Community Increased *Its* Cotton Production

¶Winterville, Georgia, organized the first community Pure Seed Association in the state—and possibly the first in the South.

By *Paul W. Chapman*

THE one sure way to get up an argument in most any rural community in the South is to step up to a group of farmers and casually, in the course of the conversation, ask what is the best variety of cotton to grow in that community.

More than likely there will be as many different varieties suggested as there are farmers in the group. And this in spite of the fact that all the colleges and experiment stations have been conducting variety tests for years, and are constantly making recommendations.

It is this unwillingness, on the part of the farmer, to accept the experimental results obtained by his state and government that has developed the cotton-seed grafter. Any Tom, Dick or Harry can name a few stalks of cotton, make wonderful claims for the variety, and set

This is F. C. Chandler with a $1,500 shipment of pure bred cotton seed. To him goes much of the credit for starting Winterville on the right road. He is now sales manager for the seed association.

up a booth at a county fair and begin taking orders.

For corn in the Middle West the variety may be of little importance but not so for cotton. The variety is one of the important limiting factors in the production of a crop of cotton.

Then in the second place after a farmer in the cotton belt selects a variety usually little or no effort is made to keep the variety up to the standard of quality and production that is possible; in spite of the fact that cotton as a plant reverts to the original unimproved type so rapidly that it has to be rogued in the test plats. The importance of seed selection in cotton production was pointed out in the December issue of BETTER CROPS by Herbert Martin of Texas. In his article he makes the following significant statement: "In view of the fact that competent authorities agree that the increased yield as a result of better seed selection is from 25 to 50 per cent, it is unfortunate that the efforts to arouse the cotton growers of the South have been so futile."

There is one community in Georgia that is such a marked exception to all of the above generalities that it has attracted attention wherever cotton is grown.

That place is Winterville, a small community of possibly two or three hundred people, and is located in Clarke County, just six miles from the State College of Agriculture, at Athens.

While there are but comparatively few people in the "town" itself, it is surrounded by prosperous farmers, in good circumstances, and men and women for the most part who have had a college education, but who are what we have come to speak of as "dirt" farmers.

Winterville is located in that part of the Piedmont region that has long been famous for the staple and quality of its cotton. Foreign buyers bought and sold Georgia Piedmont cotton on reputation—instead of grade. The soil is of that red clay type that has made famous in song and story "the old red hills of Georgia." But in even this unusual community old Mr. Boll Weevil, "the billion dollar bandit," got in his dirty work and the reputation of yesteryears was soon a pleasant memory. The buyers left the territory for states in the West; and what was formerly the best cotton country of the state became, as we say, almost the "sorriest."

But Winterville has come back, and is pointing the way to other Georgia communities, and the success is not based on thirty cent cotton either.

They have done four things of importance: first, they have all agreed upon the one variety of cotton that is best adapted to their conditions; second, they have come to appreciate the necessity for selection of seed, and they have not only selected seed but they have—for the past two years—held night classes at the school house on the scientific principles in seed improvement; they have made a thorough study of growing cotton under boll weevil conditions; third, they organized the Winterville Pure Seed Association, which was the first association of its kind in the state; and fourth, they have advertised Winterville to the cotton producing world, and have built up, as a result of their efforts, a community spirit that is making for happiness and prosperity.

Five years ago this community—like most others in the South—showed a total indifference to scientific agricultural information. A survey revealed that 22 different varieties of cotton were being grown and that most of them were not adapted to the community, or that they were of inferior quality.

Through the teacher of vocational agriculture in the high school, together with his class of boys, a

(*turn to page 42*)

Training Leaders *by* means *of* Four H Clubs

By *Russell* H. *Gist*

County Agent, Clarksburg, W. Va.

A FEW weeks ago the writer witnessed an exhibition of driving six-horse teams. It was in the arena of the International Live Stock Show and Exposition at Chicago. The driver sat in his high seat on the wagon and displayed wonderful control of the beautiful horses as they trotted and galloped around the ring. Finally he drew them up to a halt and then by manipulation of the reins the lead horse was brought around until his nose was very close to the driver. At this point he reached down and gave his lead horses a lump of sugar without getting off of the seat. The people applauded generously but the driver knew that his success was due to his trained leaders.

The matter of getting real, honest-to-goodness leaders for boys and girls Four H clubs has become quite a problem in many counties and states. Since 1914 the membership in these agricultural clubs has grown from 23,000 to 700,000. This has severely taxed the workers and it is necessary to expand the number of leaders to take care of present needs. This has necessitated "selling" the Four H idea to many older people so that they may be able to carry on the club in their neighborhood.

Projects carried by club members vary from keeping a registered calf to hemming a towel in first-year sewing. The project circulars outline what is to be done but the need of group action and the making of club exhibits must be supervised by some older person. The necessity of local leaders may readily be seen in such a place as Harrison county, West Virginia, where we had in 1923 more than fifty clubs with 1,245 members scattered over four hundred square miles of territory.

Two classes of club leaders are considered. First, teachers in the local schools and second, older club members. Since much of the work is carried on through the schools an effort was made in the fall of 1923 to place the boys and girls club work before the teachers as a group. Lewis and Harrison counties combined in this effort and invited all rural teachers and others interested to attend a week's institute at the State Four H Camp at Jacksons Mill. This was a regular teachers institute but Four H plans and ideas were stressed. About two hundred came.

It started off in a melancholy way but before the week was over they had all caught the spirit of the camp and the instructors said that they had never seen such a lively, wide-awake corps of teachers. Before they left all of them knew what Four H club work was and most of them have established a club where they are teaching or are taking care of the one which was already there. Nine-tenths of this supervision is not costing anything as they are doing it because they

love the work. Such a spirit is making real leaders of these teachers.

The older club members are given special training as soon as they once see that there is more to Four H club work than merely feeding some chickens or a calf or canning some beans or making an apron. When they have once caught the vision of leadership it is no trouble to get them to do some real service for their home club.

IN the little mountain state of West Virginia we had about forty county camps last year for club members. The outstanding boys and girls at these camps are invited to attend either the boys or girls state camp at Jackson's Mill next summer. If you want to see a real live bunch of future leaders just drop in for a day at one of these camps. Most of those attending have already caught the vision of service and are anxious to do their part. Latent talent is brought out by the wholesale. It is an inspiring sight to see them work. Each evening at sunset they hold vesper services in the open. The program is their own. Boys and girls who never thought of offering prayer at home may be seen leading in prayer at these vespers. Visitors are always present and it is at these services that many older people renew their faith in the youth of today and go away feeling that all girls are not flappers and all boys are not renegades.

After ten days or two weeks of this intensive training the boys and girls go home with a new vision of life and a desire to be of service. During the next year when it is necessary for something to be done in their home neighborhoods for the school or church or club you will find these young leaders doing it. In this way future leaders are being trained.

IT is felt that if every boy or girl could have the proper development of the Head, Hand, Heart and Health, which constitute the four H's, there would be no cause to worry about the future of our nation. The West Virginia State Four H Camp is located at the boyhood home of the illustrious general Stonewall Jackson, and it may be that some of the traditions of the historic place help to inspire the boys and girls who are fortunate enough to attend one of these camps. Stonewall was a deeply religious

(*turn to page 56*)

Boys and girls at the Weston, W. Va., Four H Fair with their registered calves

Everybody knows this critter—most of us to our sorrow. Professor Hansen offers some sensible suggestions for dealing with it.

DON'T TRIFLE *with* RHUS DERMATITIS

By *Albert A. Hansen*
Purdue University, Agricultural Experiment Station

THE other day I received a letter from William J. McFarland, a farmer of Vermilion, Illinois, in which he stated positively that the poison contained in poison ivy had entered cow's milk and not only poisoned him but caused serious illness to his mother and was also suspicioned as the cause of the death of his father a few years ago.

Although he gave good evidence to substantiate his views, we doubt whether ivy poison can enter the milk. But we do not doubt that the poison could have adhered to the cow's teats and udder and was transferred by this means. As a matter of fact, second-hand infection by touching objects that have been in contact with poison ivy is a common mode of contracting the disease and accounts for many mysterious stories often heard about the wind carrying the poison and similar yarns. I discovered this from personal and painful experience when I carelessly handled a pair of gauntlets that had been used a year previously in pulling poison ivy. A short time after handling the contaminated gloves I developed a beautiful case of genuine ivy poisoning.

Ivy poisoning is a subject about which we get little or no information n college classrooms but which is a ive question nevertheless. Definite information concerning ivy poisoning should be part and parcel of the stock of information of every agricultural extension worker. For instance, how many of us know the cause of the trouble, how to prevent it, the best treatment and methods of eradicating the dangerous weed?

Ivy poisoning is caused by a nonvolatile oil that exists in all parts of the plant with the possible exception of the ripe fruits. Being nonvolatile, the oil can poison only when the skin comes in contact with the plant. There is one exception to this statement—the poison is evidently carried in smoke so when you burn poison ivy plants, keep to the windward and dodge the smoke as you would the plague or you may wake up next morning with badly smarting eyes and a mighty sore throat. Another point—the poison remains even after the plant is dead or dry, so don't be foolish enough to handle poison ivy during the winter without proper precautions.

WE all know that some folks are far more susceptible to ivy poisoning than are others. That degrees of susceptibility exist there can be no doubt but there is evidence that under certain conditions immunity does not exist. For this reason, persons who consider themselves to

be immune should not expose themselves needlessly nor thoughtlessly. Speaking about immunity, don't put any faith in the theory sometimes heard that chewing a bit of poison ivy leaf in the spring will make you immune for the remainder of the season. It is more apt to put you in bed than to make you immune.

Just a word regarding the common names poison ivy and poison oak. There are two species, both equally dangerous, one of which has leaves suggestive of oak leaves. In the northeastern United States, however, where the true poison oak is rarely found, both names are applied indiscriminately to common poison ivy. By the way, poison ivy is frequently confused with the harmless Virginia creeper or woodbine, but since the poisonous species has white berries and the leaves are grouped in three's whereas woodbine has dark blue berries and leaves in five's, they are readily told apart. School children give us an aid to memory when they chant "Leaflets three, let it be, berries white, dread the sight."

WHEN we talk about remedies we are stepping on pretty thin ice, so to speak, because most folks have a favorite sure cure (over two hundred so-called remedies have been listed) when, as a matter of fact, it is very doubtful if a genuine remedy exists. If left alone ivy poisoning will usually run its course, dry up and disappear. The victim who has used the various "remedies" suggested by his sympathetic friends, will usually place full confidence in the one he happened to have applied at the time the infection naturally disappeared, and we have one more convert to a favorite remedy with apparently good evidence to back up his opinion.

But let us hasten to talk about treatment before our space is all used up. At the outset, I cannot over-emphasize that prevention is better than cure. In case contact with poison ivy is suspected, wash the skin repeatedly with any soap that has an excess of alkali, such as cheap laundry soap. Use running water, lots of soap, don't use fancy toilet soap, and don't rub the poison in with a scrubbing brush. Even after infection begins to show up, much trouble can be avoided by diligent washing. I am fully aware that at least one authority denies the value of soap as a preventive but

(*turn to page 36*)

A leaf of the harmless five-leaved ivy or woodbine to the left and a leaf of the dangerous poison ivy to the right. Note the irregular notches on the edges of the poison ivy leaf.

¶Although this article was written with Wisconsin conditions in mind, it contains helpful information for other sections of the country.

The Use of Fertilizers in Wisconsin

By H. W. Ullsperger
Wisconsin College of Agriculture.

WISCONSIN is a dairy state in which 80% of the products sold are livestock products. This form of farming means that the Wisconsin farmer returns more fertility to the soil than our grain farmer in the adjoining western states. In fact the Wisconsin farmer makes a special effort to return as much fertility to the soil as possible. Statistics show that between four and five hundred thousand tons of commercial feeding stuffs are purchased yearly in this state. Only about fifteen thousand tons of commercial fertilizer are purchased during the same period. These purchases, however, do not return or offset the losses occasioned through the sale of farm products, or losses of fertility through leaching from the soil, and the Wisconsin farmer will either have to change his method of farming by growing more legumes to supply humus and nitrogen, or purchase more fertilizers, or grow legumes and purchase fertilizers in order to maintain the fertility of the soil.

Farmers in Wisconsin originally grew wheat extensively. Later when wheat failed, other grain crops and clover were grown. Later livestock farming was advocated and followed. In following livestock farming more fertility was added and crop yields temporarily increased, but this increase was only temporary, and to-day they are going into the next stage of being compelled to add some form of fertilizer to our Wisconsin soils. Most farmers realize to-day that they cannot maintain fertility by adding manure alone. There are some losses even on the best soils; losses of nitrogen, phosphorus, and even some potash. Only 7% of our cultivated lands are in legume crops. This 7% returns nitrogen valued at approximately $5,000.00, but we still have a $20,000.00 loss of nitrogen yearly. If this method of farming continues indefinitely we can readily see that nitrogen will be exhausted at some time in the near future, and many of our light soils are now so low in nitrogen that every crop is limited in size because of this deficiency.

THE first step in the improvement of soils in Wisconsin is the application of lime. At least 80% of Wisconsin soils need lime. Some land on nearly every farm would be benefited by an application of lime.

Lime should be used principally to grow legume crops. Legume crops, after proper inoculation will supply nitrogen and humus, both of which are essential to successful crop production. On some of our soils, such as the sandy and marsh soils, we will have to add in addition to lime, phosphate and potash fertilizer. Good farm practice calls for the following method of procedure:

Every farmer should first have his soil tested for acidity with the Truog Acidity Test. After making this test and determining the amount of lime needed, this lime should be applied with manure. By using this combination of lime and manure the farmer can get a good crop of clover and alfalfa. Manure will supply some nitrogen, a small amount of phosphorus, and the necessary amount of potash to start these crops. Manure, if available, should be applied during the following year on alfalfa and clover. If not available, an application of two to three hundred pounds of acid phosphate and 150 to 200 pounds of muriate of potash per acre should be made to supply these much needed elements of plant food. In fact, to get a real large crop of alfalfa this fertilizer should be applied in addition to manure, and the farmer would find that he would secure a considerable increase in crop by the use of these fertilizers. Most Wisconsin farmers have a limited supply of manure and by using these fertilizers on legume crops during the second year they can possibly use their manure more economically, and to better advantage, on potatoes, corn, or other cultivated crops, especially on the lighter soils.

The next step in this rotation is to plant corn or potatoes, as desired by the individual farmer. Here again the farmer must determine for himself whether he will use commercial fertilizer or manure. The supply of manure is limited on most farms, therefore, if a good rotation has been followed, we again can recommend the use of a mixed high grade fertilizer, to be applied either on the row, or broadcast, or both. For potatoes, we would recommend either a 4-8-6 or 3-8-5 fertilizer, on the average clay loam or sandy soil, being careful to apply this fertilizer with a fertilizer attachment that will place the fertilizer either below or a little to one side of the potato seed. Fertilizer placed on top of

(*turn to page 47*)

A fine field of potatoes near Ogdensburg, Wisconsin. Without fertilizer, the yields averaged 169 bushels per acre. With fertilizer, the yield was 242 bushels, nearly doubling the net profit.

The Editor's C

FOR THE FORGOTTEN MAN

While disagreeing with many of the statements in Mr. Collin's letter which is reprinted on another page of this issue, I think there is some grain of truth in his assertion that the farmers have been subjected to a lot of goldbrick advice.

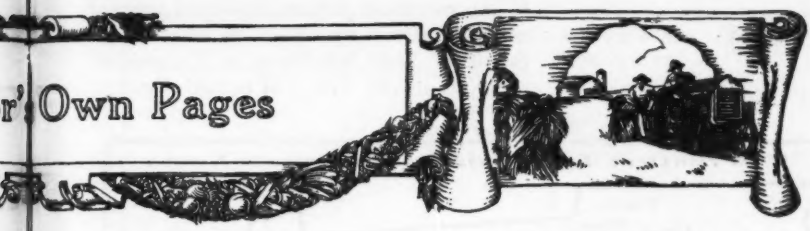
Just as everybody has his favorite remedy for a cold or his own ideas about bringing up children, so everyone has his pet plan for "saving agriculture."

It would be a pity, however, if our distaste for these cure-alls led us to turn a deaf ear to all suggestions for agricultural improvement. If there is anything worse than the "jitney messiah," it is the man with the you-can't-tell-me-anything attitude.

People who belong to one or the other of these extremes, possess an astonishing faculty for making themselves conspicuous. They are always making speeches or proposing bills or writing articles or letters. Thus it often seems to the casual observer as though the only choice was between the man who has prosperity in his pocket ready to hand out on demand and the man who resents every attempt at improvement. The world seems to be divided into hare-brained idealists and sour cynics.

But, as Professor Sumner pointed out in a notable essay, there is always the "forgotten man"—the great body of citizens who seldom make themselves heard but who far outnumber the two classes which I have mentioned. Perhaps it might be well to make it clear that BETTER CROPS is edited largely in the interest of the "forgotten man" in agriculture —the average sensible agriculturist who says little and saws wood.

By that I mean that we are going to try to avoid both the extremes I have already described. BETTER CROPS was not founded to "save" agriculture. We have no simple solution for agricultural problems. I do not consider my pronouncements infallible nor do I expect them to be accepted as anything other than the opinions of an exceedingly human being who is liable to all the prejudices and failings of *homo sapiens*.



It's hard to sit in an editor's chair for long without getting the delusion that you are the "voice of the peepul" without writing as if you had just come from a confidential interview with the Almighty, where you had learned how everything ought to be done.

Whenever I fall into this error I depend upon you, gentle reader, to provide the necessary corrective. I assume that you have an open mind and critical faculties, that you want news, information and entertainment—not editorial thunder. So, if you have been expecting me to show the way into the Promised Land, you had better try some one who feels more confident about it than I do.

I have faith in agriculture. I'm not a pessimist by a long shot. But progress comes slowly—by education and the sweat of the brow. We are constantly tempted to try to find short cuts—substitutes—and it is in chasing these will-o-the-wisps that we lose ground. To consider all available means, to choose the one that is best suited to your needs and then to roll up the old shirt sleeves and work—that is the only recipe I know for success.

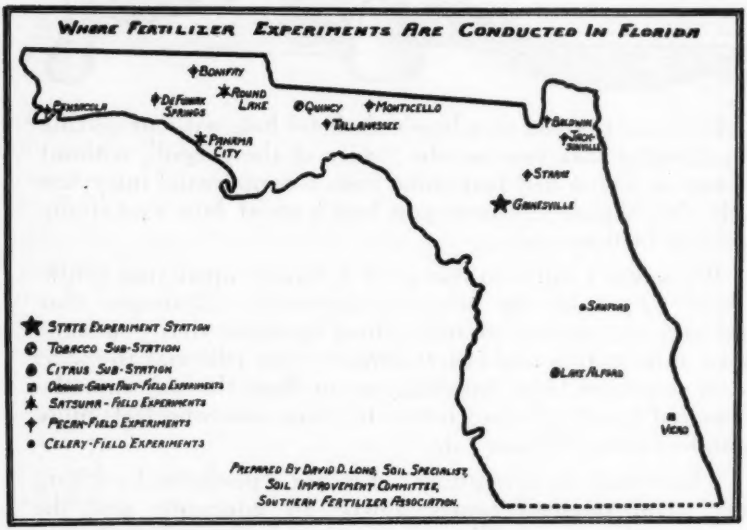
We are trying an experiment with BETTER CROPS—an experiment full of fascinating possibilities. We propose to make BETTER CROPS a forum, a discussion place, for the agriculturists of the country. Our pages are open to all shades of convictions on all subjects of interest to our readers.

I hope we can get expressions of opinion on all sides of the important social and economic problems confronting agriculture. In these editorial pages I'm going to have my say, too. Looking at a subject from many angles, we are apt to form a better judgment than when only one side is presented.

This briefly is our policy. It depends very largely upon our readers' interest and cooperation. It is for them—for *you* as one of them—to say whether it shall succeed.

Jeff McDermid

¶This month we present the second series of maps prepared by David D. Long of the Southern Soil Improvement Committee. Next month there will be two more.



FLORIDA

State Experiment Station—Gainesville.

Sources of phosphoric acid, ammonia and potash for sweet potatoes and residual effect on peanuts.

New fertilizing materials as non-acid and bacteriological plant food.

Tobacco Sub-Station—Quincy.

Fertilizers for tobacco.

Carbonate vs. sulphate as source of potash.

Forms of phosphoric acid.

Complete fertilizers and manure vs. complete fertilizer.

Citrus Sub-Station—Lake Alford.

Fertilizers for oranges and grape fruit.

Sources of phosphoric acid.

Sources of ammonia.

Amounts of potash for quality.

Field Experiment—Vero.

Comparisons of sources of materials for oranges and grapefruit.

Field Experiments—Round Lake and Panama City.

Amounts of ammonia and time of application of fertilizers for Satsuma oranges.

Field Experiments—Pensacola, Banifay, Tallahassee, Baldwin, Jacksonville, Monticello, DeFuniak Springs and Starke.

Fertilizers for pecans.

Sources and effect of potash.

Sources of ammonia.

Amounts of complete fertilizer.

Field Experiments—Sanford.

Fertilizers for Celery.

GEORGIA

State College of Agriculture — Athens.

Kind of fertilizers on general farm crop with lime and in rotation.

State Experiment Station — Griffin.

Kind and quantity of fertilizers on cotton, grain and horticultural crops.

South Georgia Experiment Station — Tifton.

Kind and quantity of fertilizers on cotton, corn, oats, tobacco and truck crops, singly and in rotation.

Field Tests — Cartersville, Barnesville, Albany, Monroe and Clarksville.

Rates of application of standard fertilizers for cotton, corn and oats in rotation.

Field Tests—Waycross, Lyons, Springfield and Madison.

Kind and quantity of standard fertilizers for cotton, corn and oats in rotation.

Field Tests — Rome, Royston and Hawkinsville.

Kinds and quantities of standard fertilizers for cotton continuously with a winter legume cover crop.

(*turn to next page*)

Field Tests—Edison.
Effects of abundance of one element with a sufficiency of the other two, for cotton under boll weevil conditions.

Field Tests—Cornelia.
Kind, quantity and time of application of fertilizers for apples.

Field Tests—Cornelia, Montezuma, Marshalville, Forsyth and Monticello.
Kind and quantity of fertilizers for peaches.

Field Tests—Albany, Putney, Cairo, Montezuma and Dewitt.
Kind and quantity of fertilizers for pecans.

Field Tests—Brooklet.
Fertilizers for watermelons.

Don't Trifle with Rhus Dermatitis

(*From page 29*)

considerable experience, personal and otherwise, backs this recommendation.

AFTER the infection develops and the pustules open, *don't use sugar of lead*, a favorite home remedy, because there seems to be some danger of lead poisoning of the blood. If the inflammation is severe, better consult a good physician, because ivy poisoning is a dangerous disease that should not be tampered with. Several human deaths from ivy poisoning are on record. A treatment that has been used with success by several of our county agents here in Indiana, is repeated bathing with fluid extract of Grindelia (obtainable at all drug stores) diluted with ten parts of water. After the inflammation has been checked, zinc oxide may be used as an ointment.

From the foregoing, one can readily surmise that the best way to deal with poison ivy is to destroy the plant. Where but few plants exist, about the simplest way is to put on heavy gauntleted gloves and an old suit of overalls and pull the plants out, creeping roots and all, following rain when the ground is soft. Don't work so hard that you perspire freely because there is evidence that the skin is most susceptible when the pores are open. If you don't care to take a chance and cannot find a person not readily susceptible to do the work, pour sulphuric acid into the roots at the bases of the stems. The work can best be done in the fall, when the poison is least virulent. Large areas should be plowed out and the plants raked and burned. But keep away from the smoke!

POISON sumac is a close relative of poison ivy that is found in wet places only. The treatment is similar since the same poisonous oil exists in this species, except in this case the oil is of a more virulent character. Mr. Dillingham, owner of the Wahab Lake resort, one of the beauty spots of Porter County, Indiana, told me last summer about a chap who used a fishing pole cut from poison sumac growing in a swamp near the lake and nearly lost his life as a result. He was in bed for several weeks with an exaggerated case of rhus dermatitis (that's what doctors call ivy poisoning) and he suffered as terribly as the name suggests.

I want to leave at least one thought with you. Ivy poisoning is a serious disease that should not be regarded lightly since in extreme cases it may prove fatal. It is particularly important that the plant be eradicated on farms where there are youngsters and near schools, churches, picnic grounds and other places where children congregate.

I have just received the June issue of BETTER CROPS and notice in the column headed, "Plans of the County Agents" that you have seen fit to announce an outline of what we are attempting to do in Uvalde County, Texas.

I am glad to say at this writing that our plans are practically realized. The Pecan Budding work has been better than we anticipated and we have exceeded the goal as set forth in the plans. The Poultry project, so far, is also very satisfactory and I expect to report later that we have also reached our goal along this line.—*M. E. Scudder, Uvalde, Texas.*

Here is what Noble County, Indiana, has done in the past twelve months: Perfected farm organizations—850 men, 625 women, and 300 club members; set out on a definite plan of work; organized a Cow Testing Association; started T. B. Testing; Increased Alfalfa acreage 3,000 acres; tested 27,991 ears of seed corn in community; finished third in Ton Littler Club and first in the Gold Dairy Medal Sheep Club; secured for the County the State Dairy show; conducted the largest Home Tour ever held in Indiana and reached 600 farm homes in Nutrition work.—*J. B. Cunningham, Noble, Ind.*

Plans for the Summer

Will make two reels of motion pictures on cotton production, county fair agricultural excursions. —*M. J. Thomson, Ashley, Ark.*

Have 40 boys and girls feeding 60 calves in Baby Beef Club—25 boys in Gilt Club. Are organizing the women for extension work.—*W. A. Posey, Sac, Iowa.*

Reorganize our three cow testing associations into six. Organize dairy calf and pig clubs. Start two corn variety test plots. Get four to six carloads of lime on alfalfa patches. Begin cream scoring at three creameries. Put on membership drive. Hog cholera vaccination school. Start several more poultry record flocks.—*B. W. Lodwick, Worth, Iowa.*

We have boys and girls clubs, have a limestone pulverizer for supplying agricultural limestone, and hope to have an extension bull club.—*C. D. Thompson, Neosho, Kansas.*

Improvement in farm crops is our major project in 1924. Sweet clover, soybeans and alfalfa, the legumes we are pushing. Adopted varieties of corn are being improved.—*Joe M. Goodwin, Atchison, Kansas.*

Put over area test for T. B. Triple our Alfalfa acreage. Have every farm boy or girl in some sort of club work.—*C. B. Drewry, Marinette, Wis.*

A more legume campaign is a major farm bureau project in Portage County, Ohio.—*C. R. Shumway, Portage, Ohio.*

AL, DIDJA SEE WHAT THAT AGRICULTURAL COLLEGE SAID ABOUT SOIL TH OTHER DAY? THAT HANDED ME A BIG LAUGH
YEAH! I'LL SAY SO! DIDJA EVER READ SUCH SILLY ROT? I S'POSE A LOTTA AMATEUR FARMERS WILL FALL FOR THAT GUFF TOO. IN A WAY IT'S A CRIME TO MISLEAD BEGINNERS THAT WAY
COPR. 1924 (N. Y. WORLD). PRESS PUB. CO.

Out in the Great Open Spaces

By H. T. WEBSTER

(Reproduced by courtesy of the *New York World*)

A Lively Protest

Dear Jeff:—

I have just been reading your editorial in the May number of Better Farming If your ideas about how to succeed in agriculture are correct, the thirty-five years that I have spent on a farm and ranch and studying the problems of the farmer and western rancher have all been thrown away. Really, some times when I read some of the things that are being handed out by College Professors and editors of some of the farm papers I feel as though there should be a law against it. You speak of Dr. Warren's article saying prices of farm products will continue to go lower for some time. I think the Doctor is correct if the farmers follow the advice of some of the professors and City editors in their advice about efficient farming, as efficient farming can mean nothing except greater production and greater production of the principal farm product means lower prices and lower prices mean the destruction of agriculture.

I see a short time ago the *Wall Street Journal* said that with efficient farming Iowa could just as well be raising an average of 80 bushels of corn to the acre as 40. That would mean Iowa would raise 800,000,000 bushels of corn instead of 400,000,000 bushels. He might have carried that a little further and said the United States had just as well grow six billion bushels of corn as well as three billion bushels. He did not go on to say what we would do with that extra three billion bushels. Everybody admits now that we are growing too much wheat and some of our people have had sense enough to advocate a reduction in wheat acreage.

I am engaged in the cattle production on rather a large scale, I run about 2,000 breeding cows. The cattle business is suffering from the effect of too many cattle for the last five years.

Liquidation and foreclosure of mortgages has cut the cattle supply down now to where it begins to look as though those of us that may be able to remain in the business will be able to at least make expense for the next few years. If the hog producers don't cut down the supply of hogs or in other words if they keep right on with the efficient methods they have of producing hogs at full capacity, hogs in a few years won't be worth a dollar a head.

I have heard so much talk about efficient farming and that this and that was economical and fundamentally unsound that it gives me a pain. If the farmers and cattle men could be permitted to settle their own problems without all these city farmers butting in and telling them what to do I am sure the farmer's troubles would soon all be over. Yours truly,

CHAS. E. COLLINS,

Kit Carson, Colorado.

P.S. After reading this letter over it sounds a little crude, but if you was living out here and selling your calves for 15% less than you received ten years ago and was paying 50 to 100% more for every thing you buy and 300% more taxes, I am sure you would feel just like I do.—C. E. C.

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Please send me full information regarding the new Corona Four, together with the address of the nearest Corona dealer.

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Address.....

How Community Increased Cotton Production

(*From page 25*)

study of the situation was made, a variety selected, but very little was said about it to the farmers themselves.

The variety selected was College No. 1.

Ten boys in the class decided to grow an acre of it as their "home project" in connection with their agricultural instruction. This was done on the home farms of the boys under the direction of their teacher.

At the end of the season the yields were calculated, and in the due course of events, were brought to the attention of the fathers of the boys. They had already come to the conclusion that the variety the boys were growing was superior to their own, and so the next year the boys increased their acreage of College No. 1 and the fathers of those boys planted 60 acres to the same variety.

This same thing has been going on in this community for five years. Last year there were 1,700 acres planted to this one variety and next year not another variety of cotton will be planted in the entire community.

In the meantime, however, other important things in addition to the increased plantings of this variety have happened.

For example the average yield per acre has increased from 95 pounds of lint to 250 pounds.

The organization through which this improvement has been made is the Winterville Pure Seed Association.

This is an organization of farmers —incorporated under the laws of the state—for the purpose of selling pure farm seeds of all kinds, and for the purpose of studying those things that will contribute to the success of the farming of the community, especially those things relating to the improvement of the common farm crops. The sale of seed under the organization is the thing that has attracted the man who gives but little thought to underlying principles.

During the past year the association sold $3,746.00 worth of College No. 1 cotton seed at a cost of only $295; which netted the farmer members $120.66 a ton for their seed, while the oil mill price, where they

SOLID CARLOAD PEDIGREED COLLEGE NO.1 COTTON SEED - TO ELBERT COUNTY FROM
THE WINTERVILLE PURE SEED ASSOCIATION
"PURE SEED PRODUCE PROSPERITY"
SEABOARD
29200

This picture shows one of the results of Winterville's good work.

had formerly sold, was $47.50. They also sold some corn, and some Laredo Soy Beans.

Their seed was sold in attractive bags with the association trade mark, and the slogan—"Pure Seed Produces Prosperity"—printed on each sack.

This seed was sold under the positive guarantee that it was pure College No. 1, one year from the source, and that it had been inspected in the field for purity by experts from the State College of Agriculture, and had been approved by the Georgia Seed Breeder's Association.

The demand for this seed was a hundred times in excess of the supply. For example, after all the seed had been sold—and it was all disposed of in a few days—one order came from South Carolina for three car loads. One county in Georgia placed an order for 5,000 bushels.

The selling of seed is the spectacular part of the business, but the most important is the increased interest in scientific agricultural information.

Dr. John R. Fain, head of the Farm Crops Department of the Georgia State College of Agriculture has taken a great interest in this community development and has given them all the help possible. Last year in cooperation with the teacher of agriculture in the local high school, he gave an evening course in seed selection. About fifty farmers in the community came into the school at night for two or three months to attend these classes.

They became so much interested in them that this year again when the slack season came around they asked for a night class. It was conducted on much the same basis as before and the interest has been so great that there is little doubt but that this will become one of the regular winter features of the association.

Several times each year the association has a meeting to which a number of distinguished visitors, interested in such work, are invited. On such occasions they serve a banquet at the school that is prepared by the girls in the Home Economics Classes. They have come to appreciate the work of the girls so much they have voted to cooperate with the vocational classes of the school by paying them 2½ cents on every bushel of seed they sell.

The association at Winterville has had the support of the entire community and none of the members have been more active than Mr. John T. Pittard, a banker and also a farmer of extensive interests. He has studied the seed business so thoroughly as a result of his interest in the local association that as a recognition of his knowledge and ability he was elected President of the Georgia Seed Breeder's Association at their summer meeting. Just now he expects to bring to the attention of the legislature at their next session the necessity for more drastic seed laws for the protection of Georgia farmers who don't know any better than to buy from fly-by-night seed concerns that infest states that do not have rigid laws.

Already in Georgia the idea is beginning to bear fruit. Not long after the Winterville Association was organized a similar one was formed at Reed Creek in Hart County. Soon two or three more sprang into existence under the direction of local teachers of agriculture, and all have been universally successful.

In such communities there is no possibility of getting an argument on rudimentary problems such as the best variety for all the farmers believe in the adopted ones just as in Winterville today you ask a man what is the best variety of cotton and most likely he will say:

"Well, there may be several very good varieties, but I reckon for us that College No. 1 about fills the bill."

You write this page!

BETTER CROPS PUBLISHING CO.,
461 Eighth Avenue
NEW YORK, N. Y.

Dear Jeff:

Below are the names and addresses of some people who might be interested in BETTER CROPS. I suggest you send them a complimentary copy of this issue. You may (may not) use my name.

My name .....

Name .....

P. O. .....

State .....

Name .....

P. O. .....

State .....

Name .....

P. O. .....

State .....

Name .....

P. O. .....

State .....

Name .....

P. O. .....

State .....

Tear this page out and mail it to me today.

Jeff

By Ted Butlar

BETTER CROPS' Washington Correspondent

In passing from the "legislative grist," now that Congress has adjourned, to the "grist" of what Washington is doing and saying about agriculture, a word should be said about the ebbing hours of the two legislative bodies. It is history now that the agricultural export bill was killed by the House on June 3, by a vote of 224 to 154. The Middle West and the Northwest heavily supported the measure but were outvoted by the East and the South. As predicted in the May and June issues of BETTER CROPS this was the only major agricultural bill considered, even though a last minute attempt was made to get something through designed to alleviate the agricultural depression.

The U. S. D. A. fared well in the agricultural appropriation act for the fiscal year, 1925, approved shortly before the last day of Congress. It carried a total appropriation of $58,575,274 of which $38,273,102 is for the regular work of the Department. This was an increase of $1,036,449 over the 1924 bill. Among the principal items of increase in the 1925 measure was $400,000 added for tuberculosis eradication work. This will give able assistance to this important line of work. According to reports up to June 30, a total of over 500,000 herds, containing over 5,000,000 cattle, had been tested once for tuberculosis and nearly 1,000,000 cattle had been accredited as free of the disease. In the opinion of Dr. J. A. Kiernan, in charge of eradication activities, bovine tuberculosis is giving way to scientific methods of eradication and there is every reason to believe that the time is not far distant when it will be reduced to a minimum, if not entirely.

Another increase of $350,000 was given the U. S. D. A. for the purchase of additional forest land, to speed up its efforts to see that the future timber needs of this country are cared for by means of sensible and efficient reforestation and forest protection. The importance of this work can be seen in the fact that right today the United States is using its stand of timber about four times as fast as it is being grown. The practice of mining timber, like coal is mined, is frowned upon by government forestry officials. This additional appropriation insures a real forestry policy for the country.

Here is bad news for plant pests. Besides the regular appropriations to carry on the organized fight against the many insect and disease pests of American farm crops, the Department received an additional fund of $75,000 to intensify the war on the white pine blister; an increase of $114,710 to make life more unbearable for the Japanese beetle, one of the worst pests ever brought into this country; and $40,000 additional to prevent the spread of moths.

Congress appropriated a total of $6,000,000 to fight the outbreak of the foot-and-mouth disease in California. Due to immediate action on the part of Federal and State livestock authorities, Dr. J. R. Mohler, chief of the Bureau of

Animal Industry, says that the disease is under control and it should not be long before it is entirely eradicated.

NOW for a few bits of Washington news as it affects agriculture. Crop experts say that the composite condition of all growing crops on June 1 was lower than on any corresponding date in more than twelve years. It was all due to the heavy rains in May. With the exception of some fruits and vegetables, no crops were up to the usual average for that time of year. An optimistic note is sounded, however, in the statement that in some years when the spring has been late, yields have been unexpectedly good. So it is too late to make a sure prediction as to the crop outcome.

Interest in pure-bred livestock continues on the increase. Exactly 34 counties in the United States have the distinction of containing 100 or more farms where pure-bred sires of all kinds are used exclusively. Eight of them have more than 200 pure-bred users. County agent E. C. Grigsby of Pulaski county, Virginia, has been embedded in first place so long that there appears little chance of getting him out. Recent reports show that he has enrolled 589 of his farmers in the campaign. He is far ahead of C. W. Wampler, county agent of Rockingham county, Virginia, who stands second with 384 farmers on the list of those using nothing but pure-bred sires. Third place goes to F. S. Prince of Green county, Ohio, with 359 farmers, and fourth to S. C. Brewer, county agent of Union county, Kentucky, with 347.

So much is being said about agricultural depression these days that we have given no attention to the increased efficiency of the farmer. George K. Holmes, expert in the U. S. D. A., is credited with the statement that farm labor became 18 per cent more effective in crop production from 1910 to 1920. Although the number of farm workers decreased over four per cent in that period, the mass of crop production increased about 13 per cent. More and better farm machinery is largely credited for this remarkable increase in production efficiency, although the fact that farmers have been putting in some mighty long and effective hours should not be lost sight of. Some of these days the farmers will get good returns from his increased efficiency.

CANOPUS

By Bert Leston Taylor

When quacks with pills political would dope us,
  When politics absorbs the livelong day,
I like to think about the star Canopus,
  So far, so far away.

Greatest of visioned suns, they say who list 'em;
  To weigh it science always must despair.
Its shell would hold our whole dinged solar system,
  Nor ever know 'twas there.

When Temporary Chairmen utter speeches,
  And frenzied henchmen howl their battle hymns,
My thoughts float out across the cosmic reaches
  To where Canopus swims.

When men are calling names and making faces,
  And all the world's ajangle and ajar,
I meditate on interstellar spaces
  And smoke a mild seegar.

For after one has had about a week of
  The arguments of friends as well as foes,
A star that has no parallax to speak of
  Conduces to repose.

"How Can We Grow Winter Wheat Profitably?" That is the question I asked the leading authorities of the big winter wheat states. Their answers will appear in next month's BETTER CROPS. *They will include contributions from Director Christie of Indiana, Professor Call of Kansas, Professor Bear of Ohio, Professor Etheridge of Missouri, Professor Kiesselback of Nebraska and Professor Warner of Iowa.*

Fertilizers in Wisconsin

(*From page 31*)

the seed potato may injure the tender sprout as it develops, and thus reduce the size of the crop. Wisconsin farmers should hardly ever apply more than 500 pounds of these fertilizers to the acre, especially on the lighter soil. We have had some very injurious effects by heavy applications of fertilizer during dry seasons. Remember also, when fertilizers are applied in this way they should be used in a rotation where alfalfa, clover, or some grain crop has been turned under during the previous year.

These are only general recommendations, and may be changed for individual farms. In fact, every farmer has a somewhat different problem, and should make a careful study of his individual fertilizer requirements.

WISCONSIN farmers should depend very largely on legume crops and feeds purchased to supply the nitrogen requirements of his soil. There are special crops, however, such as, fruit trees, vegetables, and potatoes or beets that may be benefited by additional applications of nitrogen. The common practice in Door County, where fruit is grown extensively, is to use sulfate of ammonia at two to five hundred pounds per acre to supply quickly available plant food for the growing trees. Vegetable crops which grow rapidly may be benefited in the same way, by an application of either nitrate of soda or sulfate of ammonia.

NEARLY all soils in Wisconsin respond to phosphorus treatment. There are only two ways of supplying phosphorus, that is, by buying feeds high in phosphorus, or by means of commercial fertilizers. Feeds are expensive, high priced, and the amount purchased is limited. Therefore, it is absolutely essential that the farmers buy considerable phosphorus fertilizer.

Experiments in Wisconsin have definitely proven that phosphorus fertilizer will give increases varying in amount from 25 to 100%, the average being approximately a 30% increase. Almost all soils without exception will respond to phosphorus treatment. There are a few farmers in this state, however, that are buying bran and oil meal in large quantities, and really supply more phosphorus then is lost through their farming operations. Phosphorus ought to be supplied either in the form of rock phosphate or in the more available forms, such as acid phosphate, or treble super phosphate. If farm conditions and the price of farm crops were such as to enable the Wisconsin farmer to buy phosphates as needed, we would recommend that either five to six hundred pounds of rock phosphate or two to three hundred pounds of acid phosphate be added per acre to all manure applied. This is a standard recommendation, suitable for use on most farms.

WE have in Wisconsin about three million acres of marsh soils and about two million acres of sandy soils, which would be benefited by applications of potash fertilizers. We are securing exceptionally large increases in yield on our marsh soils in both central and southern Wisconsin, by the application of two hundred pounds of either muriate or sulfate of potash. Potatoes in some cases have been doubled yields. Corn yields have been in-

creased. If alfalfa is grown on this type of soil, potash is absolutely essential to success. In fact, potash appears to be the limiting factor on these types of soils, and those who have not used potash were often forced to leave the farm.

While it is true that manure supplies potash, yet the amount of potash supplied by manure is smaller than the amount originally taken from the soil by the plants. Therefore, it is absolutely impossible to maintain or increase the potash supply without the use of commercial fertilizer. Alfalfa and clover, particularly, and all other legume crops are heavy feeders on potash, and in order to grow these crops successfully, potash must be supplied. Potato yields on light soils also are benefited by potash.

In order to verify statements regarding the beneficial effect of fertilizers the following data is given. The figures of increases are the results of experiments carried on in various sections of Wisconsin and tend to show in a general way the needs of many soils. We must always bear in mind that one or two results are never conclusive. More valuable information can be secured from data covering a long period of years.

Bulletin No. 341 of the Wisconsin Experiment Station cites eight tests with phosphates with increases valued at $5.00 produced with fertilizer costing $1.50 or a return of 300% on the investment. Also eleven other trials, increase valued at $3.50, cost of fertilizer, $2.00; or a 75% increase on the investment.

Griffith Richards of the Soils Department, Wisconsin Experiment Station, reports results with acid phosphate as follows on silt loam soils:

Number of trials	Crops	Increase in yield
26	Oats	8.6 bushels
12	Barley	5.6 bushels
7	Alfalfa	873 pounds
7	Clover	636 pounds
4	Corn	17.8 bushels

The phosphate was applied only once during the rotation, which means that there was a substantial increase on three crops by one fertilizer application.

Experiments on muck soil at Coddington, Wisconsin, in charge of A. R. Albert, with 150 pounds of muriate of potash per acre produced increases as follows:

Number of crops	Crop	Percentage increase
4	Silage Corn	52%
4	Oats	42%
2	Rye	90%
1	Hay	38%

On fields not fertilized some yields were quite low.

Tests at Sparta, Wisconsin, were conducted over a number of years. Potash in the form of muriate and sulfate of potassium was needed to grow all crops successfully. Results of experiments at Hancock on sandy soils are indicating a similar need for potash.

The upland silt loam soils of Wisconsin do not respond to potash fertilizers at present. Experiments at the Marshfield Station in charge of Prof. Musbach show over a period of years, that every $6.00 invested in potash fertilizer returned only $2.45. Potash does not pay on these soils. The lowland dark colored silt loam soils often do produce large increases in yield by the application of potash in some form.

Some sections of Wisconsin grow truck crops extensively. On muck lowland, or sandy soils these truck farmers must use potash in some form. Such crops as tobacco, cabbage, onions, beets, potatoes, celery, and so forth, need a liberal supply of potash. These plants cannot grow without this element of plant food. Large quantities of available potash must be supplied by means of either manure, commercial or home-mixed fertilizers.

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Meridian—
Meridian Fertilizer Factory

Tupelo—
Tupelo Fertilizer Factory

MISSOURI

St. Louis—
American Agricultural Chem. Co.
Armour Fertilizer Works
Swift & Company

NEW JERSEY

Bound Brook—
Nitrate Agencies Co.

NEW YORK

Buffalo—
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International Agricultural Corp.

New York—
American Agricultural Chem. Co.
Armour Fert. Wks. (East.Hdqrs.)
International Agricultural Corp.
Mutual Fertilizer Co.
National Aniline & Chemical Co.
Nitrate Agencies Co.
Virginia-Carolina Chemical Co.
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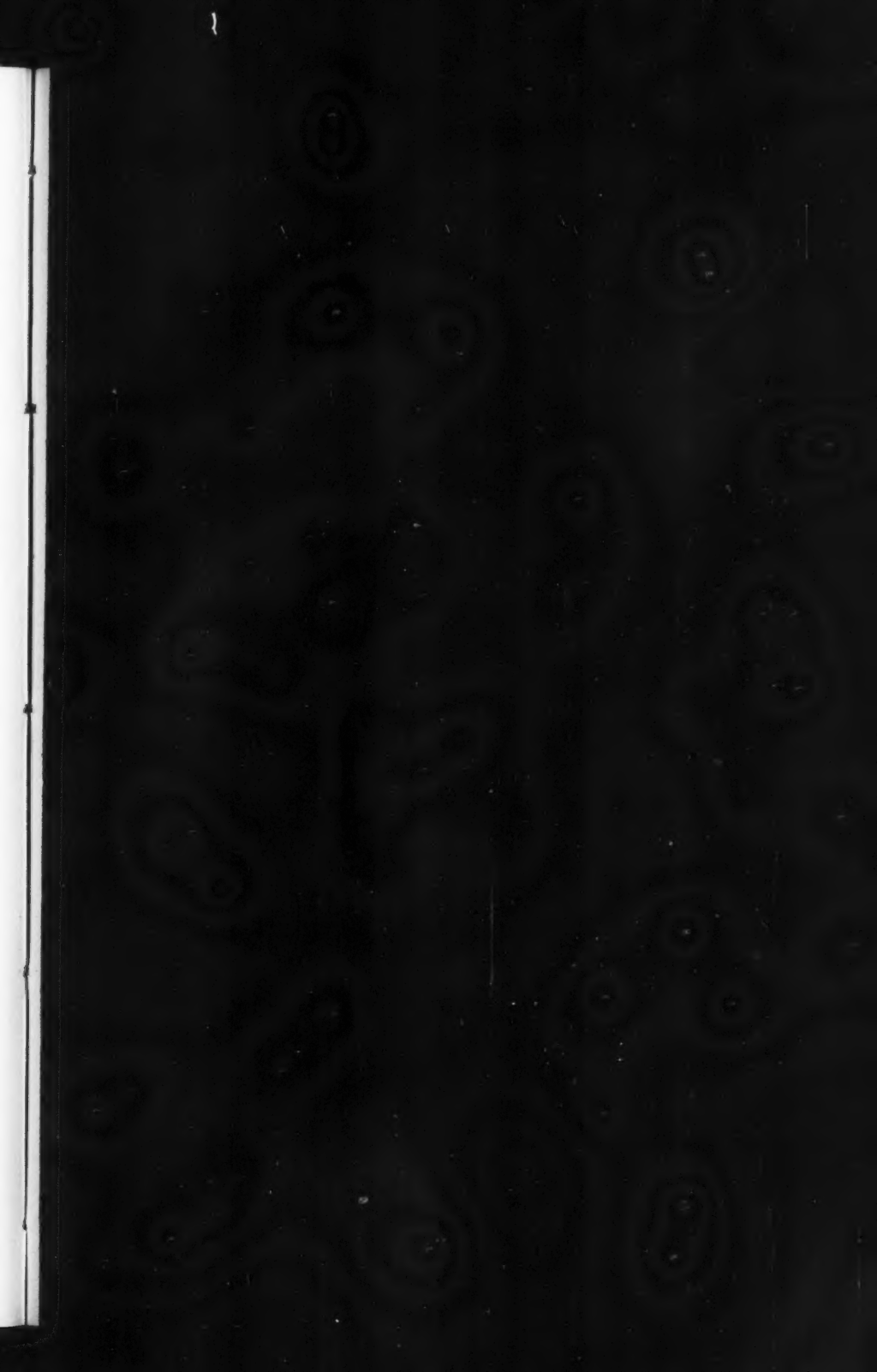


Potash Pays

(*From page* 13)

At the Woburn Experimental Farm in England barley has been grown continuously for 46 years. The effect of potash on the production of barley is indicated below:

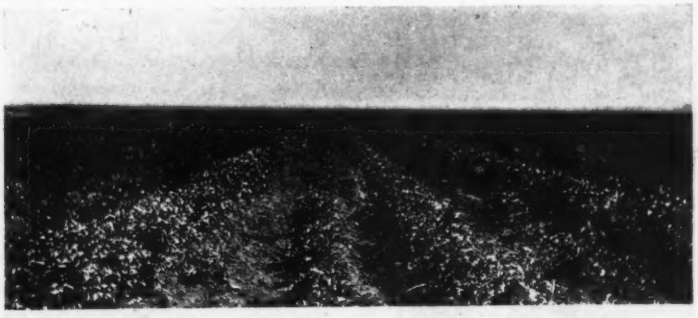
Plot No.	Treatment	Yield in Bushels in 1922
1	Unmanured	14.9
3b.	Nitrate of soda	17.3
11a.	Nitrate of soda, sulfate of potash	29.1
	Increase due to potash.	11.8

This increase has been obtained by the use of only 100 pounds per acre per year of potassium sulfate. The addition of 100 pounds of potassium sulfate, having a market value of $1.70, produced an increased yield of barley of 11.8 bushels. The December 1923 price of barley at Liverpool, England, was 0.86 per bushel. The expenditure of $1.70 per acre for potash for barley produced in England brought a return of $10.15 per acre based on the results obtained at the Woburn Experimental Farm. Potash pays under such conditions for barley production in England.

The Pennsylvania Experiment Station commenced some soil fertility experiments in 1882. Plot one was left unmanured, Plot three received 42 pounds of phosphorus every four years and Plot seven received the same amount of phosphorus and in addition 166 pounds of potassium or the equivalent of 200 pounds, or ten units of potash, having a market value on the New York market at present of $.68 per unit. The crop yields obtained are recorded below:

Use of potash at Pennsylvania Experiment Station.

Plot No.	Treatment	Yield of Crops as Bushels per Acre.			
		Corn	Oats	Wheat	Hay, lbs.
1	None	29.2	27.2	10.1	2020
2	Acid phosphate	40.4	34.9	15.1	3180
7	Acid phosphate, Muriate of potash	48.4	40.8	17.7	4340
	Increase due to potash	8.0	5.9	2.6	1160



Every other row fertilized with high percentage of potash.

The farm value of corn, oats, wheat and clover hay in Pennsylvania in December 1922, was as follows: Corn $0.72 per bushel; oats, $0.48 per bushel; wheat, $1.10 per bushel; hay, $14.30 per ton.

The value of the increased yields produced on Pennsylvania soils by potash, as indicated by the results obtained from the Pennsylvania Experimental Field, are as follows:

	Value
8 bus. corn at $0.72=	$5.76
5.9 bus. oats at .48=	2.83
2.6 bus. wheat at 1.10=	2.86
1160 lbs. hay at 14.30 per ton=	8.29
Total value of crops produced by potash from four acres...	$19.74

The expenditure of $6.80 for potash for application to four acres of residual Pennsylvania land produced an increase in crop yields of corn, oats, wheat and hay, having a farm value of $19.74. That is, an average annual expenditure of $1.70 for potash, based on the latest New York quotation, would bring an increased yield of crops such as corn, oats, wheat and clover hay based on the latest farm value of these crops in Pennsylvania of $4.94, or a profit of $3.24 per acre from the use of potash. A Pennsylvania farmer, owner of an eighty acre farm, can invest $136.00 for the purchase of potash and get his money back and make a profit of $259.20 on his investment! Potash pays in Pennsylvania for the production of common farm crops such as corn, oats, wheat and clover hay based upon present farm values and the prevailing price for potash.

There are numerous data reported from the several experimental fields located in southern Illinois showing the marked benefit derived from the use of potash in the production of such crops as wheat and corn. The results from the Odin and Ewing Fields are typical.

The fifteen year average for the Odin Field and the seven year yield from the Ewing Field are recorded below:

Treatment	Odin Field Corn	Odin Field Wheat	Ewing Field Corn	Ewing Field Wheat
Residues, lime, phosphoric acid	30.7	22.3	33.0	13.4
Residues, lime, phosphoric acid, potash	48.5	25.6	42.1	20.2
Increased yield due to potash	17.8	3.3	9.1	6.8

Two rows on left fertilized with a high percentage of potash. Balance unfertilized.

The farm value of corn and wheat in Illinois in December 1922 were, corn $0.60 and wheat $1.07. The potash used was in the form of potassium sulfate at the rate of fifty pounds per acre per year, or approximately one and one-fourth units potash.

The market value of the potash used on two acres is $1.70 at prevailing prices. The farm value of the increase produced on two acres by the use of potash on the typical gray silt loam of southern Illinois is as follows:

Odin Field

17.8 bushels of corn at $0.60=	$10.68
3.3 bushels of corn at 1.07=	3.53
Total value of increase from potash	$14.21

These results indicate that in investment of $0.85 per acre in potash will give an increased yield of corn and wheat of $7.10 per acre per year, i.e., a profit of $6.25. A 160 acre farm in southern Illinois would require an annual investment of $136.00 in potash and would give an increased crop yield valued at $1,136.00 or a profit of $1,000.00.

Similar calculations using the data from the Ewing Field give approximately the same results, the profit obtained based on the Ewing Field being $878.40 for a 160 acre farm.

The Illinois Experiment Station has also tested out quite thoroughly the effect of potash on peat soil with extremely favorable results as indicated below:

Potash was applied as the sulfate at the rate of 400 pounds or approximately 10 units per acre every three years. During six years the use of 20 units of potash costing approximately $13.60 has produced an increased yield of corn of 252.5 bushels, having a farm value based on December 1922 prices of $151.50. On the peaty soils of America potash not only pays but actually means profitable production on such lands compared with no production at all.

Almost since its inception the Rhode Island Experiment Station has been investigating the influence of potash on potato production.

On soils well supplied with lime the following results were obtained:

Treatment	Pounds	Bushels
Nitrate of soda	12,354	206
Sulfate of potash	15,904	265
Increase due to potash	3,550	59

The use of 139 pounds of potash or approximately seven units, having a market value of $4.76, produced an increased yield of potatoes of 59 bushels having a market value of $53.10!

The use of potash under existing conditions of prevailing price for potash and the farm value of crops indicate clearly that potash can be used with excellent profit on many soils and for the production of some of our most important farm crops.

Plot No.	Treatment	Yield of Corn as bushels.						
		1902	1903	1904	1905	1906	1907	Total
101	None	6.6	14.9	4.8	6.8	6.8	0.3	40.5
104	Lime, phosphorus	1.3	4.6	0.4	1.8	1.9	0.2	10.2
108	Lime, phosphorus, potash	32.0	73.1	42.0	36.3	59.2	19.9	262.7
	Increase due to potash	30.7	68.5	41.6	34.5	57.3	19.7	252.5

Picking Dollars Out of the Air

(*From page 9*)

given proper service on certain information which is vital to his very existence.

EARLY in the days when the practical possibilities of the radio became evident, the U. S. Department of Agriculture inaugurated a comprehensive program which is being expanded as the demand requires. Radio crop and market reports and information are being sent out daily by seven high-powered radio-telegraph stations of the Navy Department and 75 radio-telephone stations owned by colleges, newspapers and commercial concerns. Daily weather forecasts and warnings are sent out by 117 stations daily and are being picked up by farmers, business men, vessels on the high seas and aviators. Over 100 stations receive news notes and special radio talks prepared by Department people.

Here is a typical program arranged by the Department although it varies in different parts of the country: At 9:15 in the morning reports on shipments and market prices of fruits and vegetables are broadcast. At 9:30 the opening reports on prices of cotton and grain, and livestock, butter and eggs are made available and get out on the air. A later reports on shipments and prices of fruits and vegetables is made at 10 o'clock. At 2 o'clock are given the closing prices on the cotton and grain cash markets, the closing on livestock markets, the complete fruit and vegetable market reports and miscellaneous agricultural news and reports.

Much could be said of what radio has done for the farmer in a social way as well. The farmer and his family are home-loving people. Through choice or force of circumstances they spend all day and most

© National Photo

Assistant Secretary of Agriculture Gore always has been an ardent Radio "Fan." He is here shown getting the latest market reports sent out by his department.

Farmer picks $375 *out of the air!*

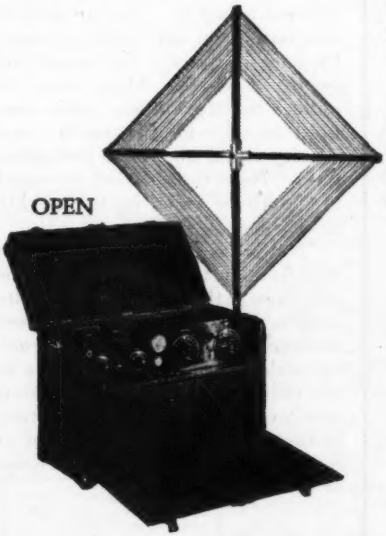
HE learned *by Radio* that prices for pears in a nearby market were much higher than the local buyer offered. So he sold 1500 bushels at an extra profit of 25 cents per bushel.

The extra profit on that one deal was twice the price of a good radio receiving set.

Today Radio is more valuable to the farmer than to almost any other business man. And in addition to important market reports, Radio brings the city's pleasures to the farm—music; sports; news and speeches *as they happen*. Broadcasting programs include items of interest to every member of the household.

The VOCELESTE is ideally suited for farm use. No technical knowledge is required. The VOCELESTE takes no more room than a phonograph in the home, and it can be put into the car and taken on picnics or to the neighbors' houses. The set is complete in itself, requires no outside wires and weighs only 30 pounds.

We will gladly cooperate with farm agents and farmers, desiring information on Radio activities. In writing for information, please mention "Better Crops".



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Jeffisms

Burglars get caught because they cannot hold conventions and study the latest methods.

Some wives cannot seem to husband their resources.

A usurer uses your errors to get rich.

"Flee! All is discovered!" wrote a joker to a hundred names selected at random from the 'phone book. Next day the outgoing trains were packed.

Being shrewd is only a means of protection—it adds nothing of value to the community.

How to become a stupid sap: keep thinking of how stupid others are; hunt for the line which separates average intelligence from superior intellect; focus your eyes continually on the other fellows' deficiencies.

Jeff

of the evenings on the farm. In view of their surroundings and environment radio has opened up a vast field of education, instruction and entertainment for them. The possibilities of radio in this connection cannot be determined or ascertained, not even by the greatest stretch of the imagination. It has brought the world to the fireside of the farmer.

Here is what Secretary of Agriculture says about radio; "I never talk over a radio or listen to a radio talk, but my mind leaps back to the time when I was farming for myself. In years it does not seem so very long, but measured by changes which have taken place, these few years are equivalent to centuries. There were no farm telephones in the region in which I lived. There was no rural mail delivery. When we wanted our mail we had to go to town to get it. The automobile was unthought of, unless perhaps, by some dreamer. There were no improved roads. There was no radio. Social contacts were confined mostly to the small community round about the individual farm. News was passed by word of mouth or came in the weekly newspaper.

"Now all is changed. The farmer who lives on that old farm has the telephone, the radio, the automobile, the daily paper. He and his family can sit in the evening and by making trifling adjustments in the radio can reach up into the air and bring down musical programs, lectures, national and world news from a radius of a thousand miles or more."

Dr. Thomas C. Atkeson, the Washington Representative of the National Grange, and one of the outstanding national figures in agriculture has prepared an article that will surely interest the readers of BETTER CROPS. *Look for "Why the Grange is Different" in the August* BETTER CROPS.

THE BESTONE V-60 Super-toned RECEIVER

Simplicity !!! Efficiency !!!

The advantages of Radio Broadcasting to the farmer are, of course, immediately apparent—the necessary market quotations—educational features—political news—music and entertainment to relieve the monotony of farm life—yet these advantages can be realized to extreme satisfaction only on a Receiving Set of Quality. The "BESTONE" V-60, expressed by experts to be the most practical receiver on the market, will immediately meet with great favor in agricultural districts.

The "BESTONE" Circuit is selective and unexcelled for tone quality—the reception, regardless of distance, is always an exact reproduction of the Broadcasting, being unimpaired by distortion, squeals, howls, whistles, and is entirely free from body capacity; the circuit is non-regenerative and foreign noises are entirely eliminated.

The volume is tremendous on the more powerful stations and Loudspeaker reception may be had on the first stage or three tubes. The four tubes, however, are required for the more distant stations. During the Summer months, stations within a radius of from 1,000 to 1,500 miles may be had on the Loudspeaker, while during the Winter this distance is increased to 2,500 miles.

The operation is extremely simple—the tuning being limited to two control dials—a novice can select stations at will—and stations are always to be found on the same readings.

The Cabinet is of beautiful finished genuine mahogany with special compartment for "B" Batteries.

Write for further particulars

HENRY HYMAN & CO., Inc.

476 Broadway, NEW YORK

212 W. Austin Avenue, CHICAGO, ILL.

"The 'Bestone' Receiver under tests conducted by the Radio Editor has proven superior in tonal quality to any set tested under similar conditions. It was noteworthy that volume was not sacrificed for clarity as is commonly the case."

New York Telegram-Mail

"Easy to tune and it certainly does work—has the selectivity which is essential where the ether is congested as it is here."

New York Herald-Tribune.

"The 'Bestone' Circuit combines the essentials of the ideal radio Receiver in an economical, practical combination. The outstanding features are its quietness of operation without distortion, its extreme sensitivity, simplicity, faithful reproduction and distance-getting qualities."

New York World.

Agents Desired in Rural Districts

Have the Farmers Met to Death?

(*From page 23*)

and you can tell them that stuff as I know they would be interested."

In this particular case it just so happened that the speakers were versed on two phases of peach production. As there was a new peach area developing in the county, one spoke on "Peach Soils" and the other on "Starting the Peach Orchard." Both speakers sensed the local problem and the talks appealed directly but the ones interested in the subject were not there. As an aftermath it may be said that about 20 of the leading citizens of the county spent two hours talking over peach production. These men stated that had the subject been announced there would have been at least 100 interested people to attend the meeting. Another meeting was demanded. These people were interested because there is a cost of $200 to $300 per acre to bring peaches into bearing.

Following a full comprehensive statement of the purpose of the meeting it is then essential to give the information as to who will discuss the question and his qualifications for speaking on the subject. Only in a few instances does the speaker carry a sufficient reputation to be accepted as an authority. Even then many people have never heard of him, so it is advisable to publish his title and the institution he represents in the announcement.

Farmers soon sense whether or not a speaker knows his subject. Speakers trained in one branch of agriculture and pinch hitting in a meeting in which another branch of agriculture is the topic under consideration have caused some of the life blood of farmers' meetings to ebb away. It is an injustice to the horticulturist to substitute him for the dairyman, but the greatest injustice is to the farmers. In case of emergency rather than substitute, postpone the meeting. If there is no authoritative speaker available don't call the meeting.

Circus advertising methods must be followed to a certain degree. This is particularly true when the farmers have lost interest in coming out. The effect of past meetings may have to be overcome. At any rate there must be injected into their stream of thought such facts as will overcome prejudice and will counteract past unfavorable impressions. New interest must be created and a desire to attend the meeting must be established.

Finally if a meeting for a certain purpose is called, restrict the meeting to that purpose; talk on that subject. One can do much to kill the interest by running in speakers to talk on subjects other than those advertised.

Training Leaders

(*From page 27*)

man and he would approve of Four H club work as it is founded on a verse in the Bible—Luke 2-52. Look it up and find the four H's.

This state camp is strictly a boys' and girls' institution. It is only a few years old. Each county of the state will build a cottage there and the state has furnished the shops and dining room.

Proper leadership in any movement is always a serious problem. Leaders must be trained for the work they are to do. If we are to eventually offer Four H club work to the boys and girls of the entire nation we must have thousands of local leaders who will be responsible for a group of club members. Last year 700,000 boys and girls took up projects, but there are two million more that have not yet been reached. They are waiting for trained leaders.

An Agricultural Program

(*From page 11*)

HERE is a program from County Agent M. H. Fedderson of Oskaloosa, Iowa, that covers a number of important points in a sensible way and also gives specific suggestions:

"We need to become more interested in *our* business. Cost of production must be reduced and I submit the following means to this end—1. Increased yield per acre. This will doubtless include the use of the fertilizer in which the particular soil is lacking. In Iowa it is phosphorus chiefly. 2. Decrease amount of work per acre. This includes improved machinery. Control of soil washouts so that we may have maximum length rows in fields. 3. Cull all kinds of live stock, including cows, sows, hens, so as to eliminate all poor producers and star boarders. 4. Increase length of usefulness of fences, buildings and implements by preservative treatment. 5. Cooperative marketing may be needed, but more efficient production comes first."

I was especially interested in one card that came back from Mr. L. N. Wilson, an agricultural student at the University of Idaho. It would be mighty illuminating if we could find out what these youngsters who will be the farmers of the next generation have in the back of their heads. Mr. Wilson writes:

"What does Agriculture Need?

"1. To forget about legislation. 2. A thorough study by *agricultural* economists. 3. A definite program of marketing surplus products. 4. More and *'Better Livestock.'* 5. More energetic farmers, who will be willing to take 10 or 20 years to reach the top round, rather than 'plunge' for it in two or three years. 6. More conveniences and comforts about the farm-house and farmstead. 7. Better rural schools and churches."

That sounds to me like a well thought out program.

ONE of the things that interested me most keenly was to see what attitude our readers took towards cooperative marketing. Contrary to my expectation this was not emphasized as much as I had anticipated. To be sure, it is mentioned in the majority of replies but there is a noticeable tendency to regard it simply as *one* means rather than *the* means. As Mr. D. F. Rainey, extension specialist at Michigan Agricultural College expresses it:

"I do not believe that cooperative organizations are going to anywhere near solve the problem at present, as our managers are too inexperienced. It is a help. Neither will legislation do it alone. More than farmers generally realize, I believe, depends on them individually."

I think I am stating it pretty accurately when I say that the general sentiment of our readers is that real, efficient cooperation is a good thing but that it is only part of the program and must be accompanied by other constructive measures to be most effective.

Among the definite suggestions as to how farming could be made more profitable, first place must go to diversification with the idea of making farms self-sustaining first of all and then providing several cash or surplus crops. These replies sum up the general sentiment:

"Stress, *all the time* that the country and the people totally dependent upon *one crop* are the ones calling for help. Then DIVERSIFY. —*A. K. Robertson, County Agent, Goldboro, N. C.*"

"Preach continuously that the farmer first feed himself and his stock as near as possible and raise such surplus crops as best suit his soil, climate and market. Encourage him to work with his neighbor more. Teach him to study cause and effect in all things that affect

him.—*W. M. Hosier, Farmer, Waldo, Ark.*"

"Plan our farms so that we will have something to sell several times in the year. Cultivate only the best land on the farm; sow the other down to a permanent pasture with at least three legumes in it. Raise enough food crops and truck patches to feed your family the entire year, raise enough feed crops to feed the livestock on the farm. Do not buy new machinery every year. Build a tool shed to take care of the high-priced machinery you already have. —*L. C. Pace, County Agent, Bardwell, Ky.*"

"Our great work out here is—1st. Raise forage for man. 2nd. Raise forage for beast. 3rd. Raise forage to sell. If we can not do the first we certainly can not do the others, for if man has not forage, he will not have beasts and without beasts he will not raise much to sell.—*P. J. Gwyther, County Agent, Hettinger, N. D.*"

"Too few farmers are self-sustaining. More of what is consumed on the farm should be produced there. Economic production is and always will be the first essential in successful farming. The farmer cannot adjust freight rates, change marketing conditions, improve credit or secure helpful legislation, except by slow degrees. They are usually blamed for much of the trouble. The farmer can adopt better practices in many things than are in general use.—*A. E. Bowman, Director of Extension, Laramie, Wyo.*"

"Make every farm produce the food and feed for folks and livestock on it and have at least two cash (as surplus) crops. Here in this state the 3 'L's' are to be used 'L'egumes, 'L'ime, and 'L'ivestock, this last to include cow, sow and hen. With these the 3 'ee's' are to be used constantly, weed, feed, breed. Then we can make the soil rich and it will make us rich.—*R. L. Blackwell, County Agent, Calhoun, Ga.*"

"SELL YOUR SURPLUS

If only a bushel of potatoes or roasting ears, sell them; a dozen bunches of radishes or onions, sell them; or a half dozen roosters, sell them. Sell everything you can, and put the money in a separate account. Very few farmers use all the produce from their gardens and it is wasted because it would only bring a dollar or less at a time, but in a year it might pay your taxes. Try a 'surplus account.' DOLLARS LIKE MISERY, LOVE COMPANY.—*Frank N. Wallace, State Entomologist, Indianapolis, Ind.*"

I SHOULD have been sorry if in all the preoccupation with the economics of agriculture, our readers had forgotten another scarcely less important phase—what I might call the "social side." I was glad, therefore, to receive a number of suggestions dealing with the need of more sociological work. Several people, in fact, suggested a sociological survey—an interesting idea which needs fuller development. Here are the outstanding suggestions on this phase of the subject.

"1. A campaign designed to increase interest among farmers in their group affairs. 2. The development of a more intelligent and aggressive local leadership—among farmers. 3. Plans which will carry farm organizations into the smaller units such as school districts and develop strong following there. —*Harry L. Keefe, Pres. Neb. Farm Bureau, Walthill.*"

"Better livestock with legumes and pastures. Better provision for winter feed for the livestock raised. Better farm organization based on local community clubs dealing first and foremost with local problems. In order for the farmer to work out his problems and make a success he must do it himself, and a paternal government is bringing ruin on him and the whole country. Regulation of all business is bad for the farmer as it hurts the market by strangling business. The farmer must work his own way out, but not be asked to foot the bill for all this government expense and politics.—*Evan W. Hall, County Agent, Spearfish, S. D.*"

"1. Strong organization: (*a*) Leaders; (*b*) Membership; (*c*) Finance; (*d*) Local Units. 2. Sound Constructive Program: (*a*) Backed by Community Leaders of recognized standing; (*b*) Productive of tangible results; (*c*) Consciousness of organization back of program and necessary support needed and given.—*George H. Brainard, County Agent, Romulus, N. Y.*"

"Educate the young men of the country as to the possibilities for leadership in rural communities. —*Z. P. Metcalf, Dir. of Instr. School of Agri., N. C.*"

"Provide some means of educating farmers on the principles of farm organization and cooperative marketing. Farmers have too little understanding and faith in their own efforts and too few support their own organizations.—*J. F. Larson, Farm Bureau, Fieldman, Wis.*"

The farmer must organize himself. It is education, not law, which will save him. Ninety-eight per cent of the farmers' troubles can only be overcome by the farmers themselves. Let them quit listening to demagogues and work out their salvation.—*W. L. Stallings, Mgr. Agri. Dept. C. of C., Texas.*"

Right in line with this comes this suggestion from County Agent S. R. Bowell, of Richfield, Utah, which rings the bell with me.

"Agriculture needs a safe and sane program for each community. It needs good practical men with vision to be community leaders. This program should extend over a period of five years or more. When communities solve their problems thus and unite with the county, state and nation to solve the larger problems, agriculture will be safe and sane."

Mr. Boswell incidentally answers several critics who have written in to ask me what this was all about. "Suppose you do get a program," they say, "How will you ever get it put into effect?" Well, friends, I'm enough of a sceptic to think that any program — no matter who framed it—would be pretty hard to put into execution right away. That wasn't my idea at all.

What I wanted to do was to bring forward the idea of a program, to get people thinking about one. It seems to me that most of us are rushing around furiously trying to make some progress but if we stop and ask ourselves "progress where? towards what?" we find that we haven't any very definite views beyond tomorrow or next month.

So I'm strong on making a plan even if you don't find it practical to follow it all the way through. I have published these contributions and shall publish others in the hope that they may furnish some sort of general guide to our readers.

As a definite example of what I have in mind, I should like to refer to a little booklet sent me by Mr. E. B. Johnston of the Dallas County Farm Bureau, Selma, Ala. This little 12 page booklet is entitled "1924 Agricultural Program for Dallas County." I have seen similar attempts but none that impressed me so much as this. Drawn up and endorsed by the Farm Bureau, it presents a finely rounded, sane program which ought to win the hearty support of every farmer in the county.

The trouble with most programs is that they are so general as to be meaningless, but here is one that talks in terms of local conditions and gets down to brass tacks and concrete suggestions.

I don't know how completely the people of Dallas County will be able to put this program in effect, but I'll wager they go a lot further than the farmers who haven't made any plans.

In concluding I want to thank those who sent in contributions. Some of the most interesting had to be omitted on account of space limitations. Perhaps we can print them in future issues.

The Cooperative Marketing Situation

(*From page 16*)

business man nor is he skilled in the arts of competitive business. Once a farmer becomes a member of a cooperative association does not imply that he will always remain one, for when he listens to the arguments of those who aim to disrupt his organization, he too often weakens and sometimes leaves the association. Not until the farmer was convinced that his individual efforts were ineffective, did he realize or appreciate the value of cooperative marketing.

A prominent raisin grower in Fresno personally took me out among the farmers in the vicinity of Fresno and I learned their point of view directly from them, and from two angles—from members of the Raisin Growers' Association as well as from non-members. The members stated emphatically that they were whole-heartedly for the association and admitted that it was their only salvation. Non-members as a whole were not antagonistic toward the organization but spoke well of it and said that they simply did not join because they could obtain as much for their product without being members and did not have to wait for their returns. On the other hand, they frankly stated that the cooperative was instrumental in elevating the general price level of the product to the grower and in increasing consumption, brought about by extensive and efficacious advertising. Independent packers and dealers have never made any attempt to increase the consumption of surplus perishables.

IT is not my desire to convey the impression that all western cooperatives have been successful, for I obtained authoritative information to the effect that 75 to 80 per cent of all cooperatives have failed at one time or other. A goodly number of these, however, were not permanent failures and have been reorganized and are functioning today. Like all new enterprises of this nature the commodity associations experienced many difficulties particularly in their early development. It was practically impossible to obtain directors and managers who had experience in this type of marketing. Furthermore, members were inexperienced in this method of selling their products, and most of them were unfamiliar with the operation, management, purposes and functions of their respective associations. This lack of information on the part of members, along with a lack of immediate financial benefits and with discouragements and insidious propaganda offered from the outside resulted in discontent and contract violations.

Many cooperatives have failed because they have endeavored to handle a great diversity of products produced over an unusually large territory. Such failures prove that the best results are obtained in cooperation when an organization is founded to handle a special crop and when the locality in which it operates is comparatively limited in area. Since each industry has its own individual problems to solve, its special difficulties to overcome and its particular practices and connections with which to deal, an indiscriminate organization of growers is generally very unsatisfactory in practical results.

THERE are two general plans of cooperative organizations found: In the first, the grower joins his local association and the local association is tied to a central selling agency by a contract. An example of this type of organization is the

California Fruit Exchange, where the local has a contract with its growers, the district exchange with its locals, and the central agency with all the district exchanges; the second plan is different in that the grower is tied directly by contract to the central selling agency, the central owns all the packing houses, equipment, etc. An example of this type is the California Prune and Apricot Growers, Inc. From observations made and information gathered the best results are obtained when a large cooperative movement is founded on independent local units which, for greater business efficiency, federate and form an agency through which they handle their common problems. This means that each unit builds a packing house or provides other facilities, employs a manager, installs the necessary equipment—the growers themselves thereby owning and directing their local units. No man takes as much interest or becomes as active in a situation removed from him as he does in his own local, individual affairs. The activities of the central agency will, obviously, embrace all matters too large to be handled by the local units. The strength of a cooperative federation lies in the vitality of its local units.

Several of the associations where capital for the purchase of supplies or for other purposes is required have worked out a plan by which the capital contribution of the stockholders is kept permanently proportionate to their shipments by what is known as a Revolving Fund into which the stockholders agree to pay a specified amount per box (per acre or whatever the unit is) annually, based upon their respective shipments. With the money so contributed an equivalent amount of the oldest issued stock is purchased and transferred to the stockholders making the last contribution. The capital is revolved out every five or more years; depending upon the cycle adopted. The grower contributes annually on the basis of his previous shipments, and receives a return of capital based on his shipments of five or more years previously. The capital contributed generally pays six per cent interest, but no dividends are paid on the capital except the interest rate.

Some cooperatives, for example, the Sun-Maid Raisin Growers, have adopted the policy of establishing their own sales forces in the markets, while others such as the California Peach and Fig Growers, Inc., use brokers exclusively, although they do not always give exclusive representation to any broker in his particular or surrounding marketing.

THE part played by the extension agent in all cooperative movements in the west has been purely of an educational character. He has not urged farmers to join any particular association, because he feels that it is a responsibility which farmers must take for themselves, since it is their own money and their own crops that are invested. The agent in the west has aroused farmers to the necessity of cooperative marketing of their products and educated them as to the needs of a standardized product put up in merchantable form. Although he is unable to solicit farmers to become members of any particular organization he has, nevertheless, full sympathy with the cooperative movement, and when requested to do so has gladly extended such advice and suggestions as he has had available.

KEEP RIGHT ON!

Rate reductions up to 51 per cent on fertilizer shipped in less than carload quantities were announced recently by the Western Trunk Line committee, representing twenty-six railroads in the western territory, to be effective at once and to continue until May 1, 1926.

Putting Over a Poultry Club

(*From page 7*)

secured from the United States Department of Agriculture to furnish each member with a complete bound set. This particular lesson proved very interesting and all of the members said "they took something very definite home with them." The second lesson was devoted to types of poultry houses suitable for this part of the State. Blue prints of the various types were secured from the Engineering Department of the Agricultural College so each one could have something to study. These kinds of discussions seemed to be putting the work across in good shape. Bulletins and printed information were secured for every lesson. The members were asked to keep the bulletins and other printed matter for permanent use.

The class was so encouraged with their work that they decided at their September meeting to hold a public gathering in the village in October in place of their regular meeting. A combination egg and poultry show, together with a poultry program was decided upon. The officers of the club met with the business men of the village one evening and explained what they intended to do and asked the business men to cooperate. A small purse of money was raised for prizes and the business men agreed to keep their places closed during the afternoon of the program. Entries were not limited to members of the Club, but anyone in the community could exhibit. While every member of the Club, exhibited eggs, poultry, or both, outsiders made a number of entries. A poultry man from the Extension Department did the judging and gave a general poultry talk in the afternoon.

The entire community, including the business men of the village, turned out to see what was going on. The judging proved very interesting and instructive, as there was plenty of time to explain why birds were placed in the order they were. Words of approval were heard on all sides. Members of the Poultry Club accepted their responsibility willingly and did everything possible to show the community what they had gained by belonging to the club. The president of the club, who had never paid very much attention to poultry, will realize better than $600.00 for eggs this year. All members think a lot of their egg accounts.

In order to keep the interest up and make the club a go, I knew it was necessary to attend every meeting, the same as taking charge of a class in school. I missed only one meeting. On that date the Club visited several large poultry breeders. The close association of the Agent with the members of the Club at every meeting formed a cordial relationship that could not be established in any other way, on a large scale. In this way they felt free to accept or reject any information brought to them right at the meeting. There was no ridicule after the meeting among themselves or in speaking with others. Every member felt that they could speak with authority on the various topics studied, and many people outside of the club came to them for information on various poultry subjects. This was admitted by members at the meetings. We expect to keep this club active next year, but probably will hold meetings at intervals. More attention will be paid to egg records. Each member will be visited from time to time on the farm and the egg record secured.

Since the organization of this club numerous communities have

requested that poultry clubs be organized for them. While it is impossible for the Agent to set all of his time aside for the conducting of classes it is beyond a doubt the most effective way of putting the information across and having it accepted by large numbers. It is not always necessary that the man of the house be reached with the information. I find that the women and interested boys go home with much more enthusiasm to do the things they learned in the class. It is my aim to increase the number of classes this next year, but not to get so many that they will become too big a burden. Classes will be held in the day time and regular attendance insisted upon. This will increase the efficiency of the County Agent's work and everyone taking the course will become a leader and teacher.

Not all of the men will be able to attend all classes during the busy months, especially if the meeting time is definitely fixed, but meetings during the busy months can be omitted and made up later. To put that across gives the work a high standing. Classes will have to know how much they are expected to do before they start. The large majority starting a project will then stick to the finish and the people will know that the work did not fizzle out. This kind of work commands respect from all.

A Correction

Through an error on the part of the publisher, the price of *Vegetable Crops*, by H. C. Thompson, published by McGraw Hill Co., was quoted in last month's BETTER CROPS at $12.50 a copy. The correct price of this book is $4.50 postpaid.

We also neglected to state that the very fine bibliography on vegetable gardening in which this book was included, was compiled by Mr. H. F. Huber of the New Jersey Agricultural Experiment Station.

About Ourselves

BETTER CROPS is a monthly magazine edited primarily for those who act in an advisory capacity to the farmer.

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SUBSCRIPTION PRICE — $1 per year. Single copies 10c each.

CHANGE IN ADDRESS — Readers should always give old as well as new address and allow at least three weeks for the change.

MANUSCRIPTS should be brief and preferably typewritten. They will be returned only when proper postage is enclosed. Payment is made on publication.

THE PUBLICATION of an article over an author's name, pen name or initials does not necessarily imply that we endorse the opinions expressed therein. We print articles for their interest and merit regardless of whether they accord with our own opinions.

ADVERTISING RATES may be secured upon application.

ADVERTISING — BETTER CROPS accepts only such advertisements as it has investigated and believes to be thoroughly honest. Readers are requested to say "I saw your ad in BETTER CROPS" when ordering.

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BETTER CROPS PUBLISHING CORP.
81 Fulton Street New York

Time

(*From page 6*)

eternity never has twins or triplets.

Providence wisely provides that you may squander one moment if you wish, but never two at a time. You cannot draw the entire sum today and blow it in tomorrow. You cannot leave your unused time to me in your will. You and I can spend an hour together; but we have each spent an hour—you cannot give me an hour, nor can I present you with so much as a single golden second.

Providence does not trust you and me in this most important matter of minutes, and for our own protection wisely interposes this trust fund arrangement between our heritage and our squandering propensities.

All of which is good—and if it were not so, many of us would have no moments left at this moment—and then what would become of us!

OF your hours 210,240 are an Indian gift, presented only to be taken away. These are spent in sleep—and sleep is temporary death. But do not worry about this, nor try to save these hours. It is all right. You cannot help it, and a good day's work begins with a good night's sleep the night before.

402,960 waking hours! Some of yours are gone; most of mine have vanished. Many went in childish play—others were wasted uselessly—how I wish I had them back. How many of yours are left is your job to figure out. What do you take me for!

How to live on the remaining hours, that is our problem, yours and mine. Before the slender thread is snipped, what can we do to make the world better than we found it; what can we do that someone may care to read our biography? We can live fully, laugh loudly, love deeply, work hard and unceasingly and play as children, wasting not a moment. Or we can pass the moments in useless inanimity, our brains and hearts lying sluggish and dormant like a pound and a quarter of warm beefsteak.

It doesn't seem as if I've helped you much so far, but my job is not to tell you how to save time. I cannot aid you in planning your work. I cannot map out your days for you. You are the sole judge as to whether you are now wasting time. *My job is to make you think.* The best teacher lets the children do all of the work. Thus, and for this reason, there are very few good teachers, and a host of poor pupils—all because teachers do the work and the children sit and giggle.

The time is not wasted that you spend in thinking about time. The moments you invest in careful, thoughtful planning for the moments to come are yet yours—they are the fertilizer applied to future hours and days.

Plan your work and work your plan. Waste no moments. Remember that a second is a thunderous eternity—gone, it is gone; and who can gainsay this?

Time!

Fertilizing Gravensteins

In reply to an inquiry addressed to him on the fertilization of Gravenstein Apples, Luther Burbank has the following to say:

"Poultry fertilizer has a tendency to make foliage and rapid growth in the Gravenstein apple. Potash is the one element which colors the apple or any other fruit. Lime in any form makes the trees more productive. All three of these combinations make a diet which the Gravenstein and practically all other fruits require. Humus is very important in soils that have been long cultivated."

WE solicit your inquiries when in the market for Potash Salts in any quantity or for fertilizer material of every description, direct or through our nearest branch office; these are maintained for your service.

H. J. BAKER & BRO.

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OLIVER

BETTER PREPARATION — BETTER CROPS

One acre of ground properly prepared for seeding is worth two acres that is deficient in available plant food and that is full of clods and air spaces.

Preparation of the ideal seed bed involves an application of the proper fertilizer, if the soil is deficient in any of the available plant foods, and in properly discing, plowing and firming the soil until it is uniform from surface to subsoil.

Before plowing use the disc on the surface, cutting all trash and mixing it with the surface soil. This will eliminate clods and air pockets. Next plow the land, using a combined rolling coulter and jointer, so that all weed seeds and eggs and larvae of insects may be laid on the bottom of the furrow. Then, as a final preparation, use disc and pulverizer in pulverizing and firming the soil.

The result will be a seed bed that will be the greatest asset to the farm and to the farmer.

OLIVER MANUFACTURES THE CORRECT IMPLEMENT FOR EACH PHASE OF SEED BED PREPARATION

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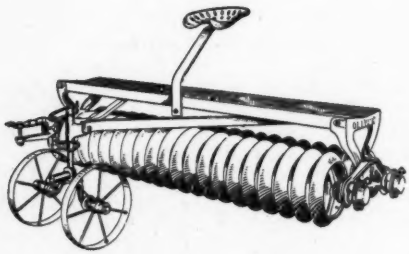
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